



TETRA TECH

INITIAL SCOPING MEETING 3008(a) CAFO

Formosa Plastics Corporation -
Texas

3008(a)/3008(h) and Post-Closure

- Pre-1990 Facility Area is covered by existing 3008(h) order; includes the former Brookings Property
- Expansion facility areas as defined in Exhibit 1 are covered by the 3008(a) order.
- A post-closure permit/order application is being prepared for submittal to TCEQ covering the entire facility. Upon issuance of the permit, both the (h) and the (a) order will terminate - ~ 2 years



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3008(a) CAFO

Section VII identifies 9 tasks to be completed

- Post Closure application
- Initial Scoping Meeting
- Initial Scoping Meeting Summary
- Draft & Final CAS Work Plan
- Draft & Final updated RMP
- Draft & Final updated CRP and SMP

Tasks are based on approach described in EPA Corrective Action Strategy (CAS)

3



General Approach to Expansion Area

1. Document status and evaluate need to investigate Exhibit 1 areas ("Scoping Meeting")
2. Prepare a WP to investigate those Exhibit 1 areas that are not NFA ("CAS WP")
 - First priority will be to determine if impacted media is actually present
 - Second priority will be resolving potential CSM data gaps: if there is no impacted media (no release) there is no need for a CSM.
3. Results of investigation documented in updated RMP
 - Updated RMP will include site-wide information
4. CRP and SMP will be updated following approval of the RMP to incorporate additional information as warranted.

4



Initial Scoping Meeting

- CAFO, Section VII, Para. 30 directs FPC-TX to participate in an initial scoping meeting with EPA and TCEQ. Specifically, FPC-TX is directed to:
 - Document status of each SWMU and AOC included in Exhibit 1 of the CAFO
 - Evaluate need to perform corrective action activities at each Exhibit 1 SWMU and AOC

5



Conceptual Site Model

- A CSM as defined by CAS consists of six elements:
 - Facility Profile
 - Land Use and Exposure Profile
 - Ecological Profile
 - Physical Profile
 - Release Profile
 - Risk Management Profile

6



- Process Areas
- SWMUs and AOCs

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TRAFFIC

E/C SPVC

WAREHOUSE UTILITY

MAINTENANCE

Expansion Area

OLD UTILITY

EHSS GA

TECHNICAL

LLDPE PP PE

TRAFFIC

EHSS PVC

UTILITY

Pre-1990 Property

YCM

Former Brookings Property

TRAFFIC

E/C

CIVIL MAINTENANCE

PP4

E/C

TRAFFIC

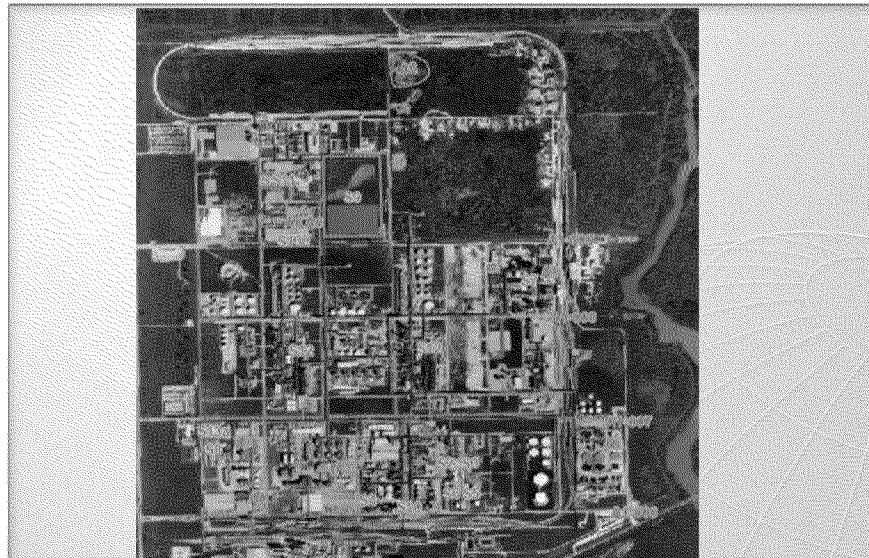
CWIP

ITEM



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SWMU & AOC Locations



9



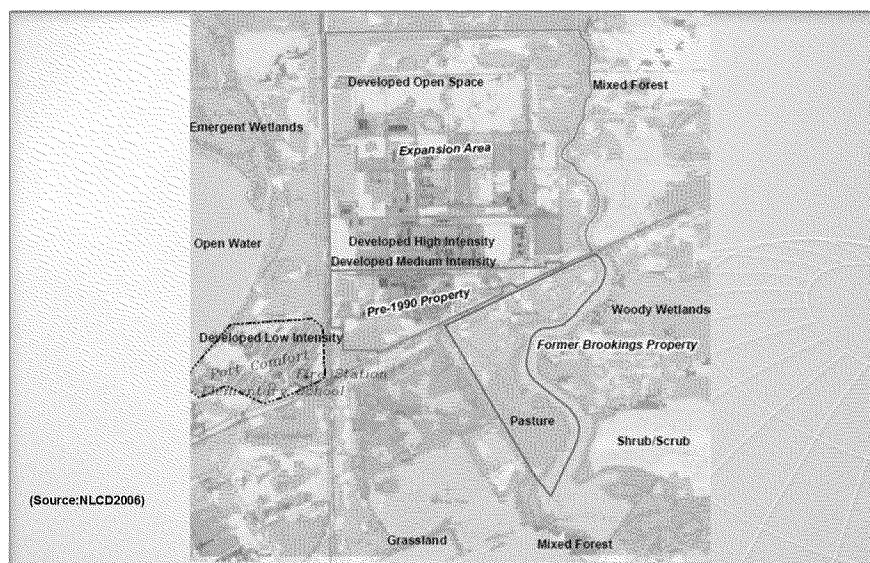
Land Use and Exposure Profile

- Surrounding Land Use
- Wetlands/FloodZone
- Groundwater Classification
 - Class II GW
- WaterSupply Wells
 - EPA WellSurvey?

10



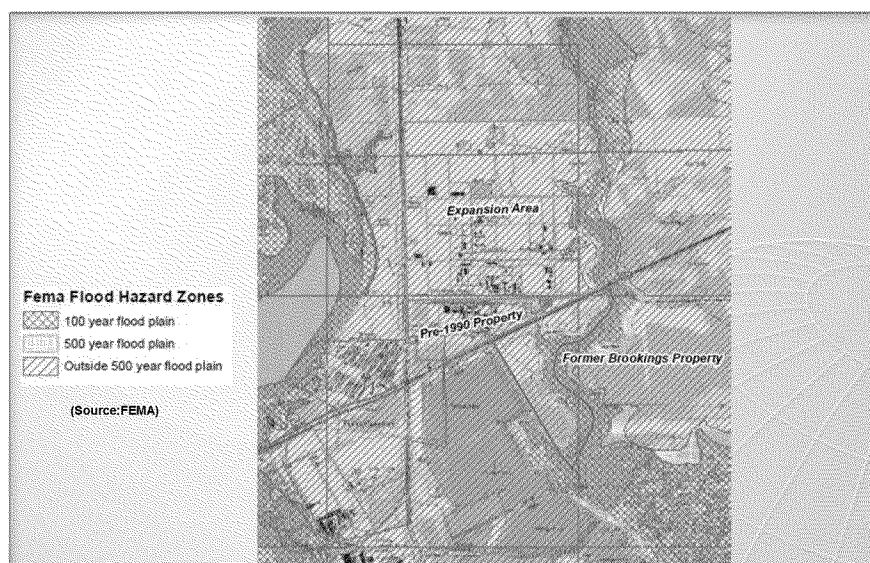
Land Use



11



Flood Hazards



12



Well Survey

State Well Number	Owner	Well Use	Distance from PFC-TX Facility (ft)	Well Depth (feet)	Aquifer	Elevation (feet)*	Water Level (feet below ground surface)
80-20-5D	Formosa Plastics Corp.	Industrial	OnSite	220	NA	20	30.0
8020501	C.S. Traylor	Stock	1230	280	Beaumont	22	31.9
80-20-5(2)	Formosa Plastics Corp.	Industrial	OnSite	385	NA	20	42.0
80-20-5E	Richards Drilling	Oil Field/Supply	3569	210	NA	20	15.0
80-20-5(5)	Formosa Plastics Corp.	Domestic/Industrial	Onsite	400	NA	20	37.0
80-20-5(3)	Richards Drilling Company	Other - S4	4364	470	NA	20	20.0
80-20-6(1)	F.W.A. Drilling Co.	Supply	2063	335	NA	15	105.0
80-20-6(2)	Mobile Production	Industrial	3535	160	NA	20	40.0
80-20-6B	Bay City Drilling Company	Industrial	3100	272	NA	20	0.0
80-20-6C	Bay City Drilling Company	Industrial	1960	438	NA	20	0.0
8020605	Maude B. Traylor	Stock	2884	117	Beaumont	19	0.0
80-20-6(1)	D.L. Taylor	Stock	793	320	Beaumont	15	35.8
80-20-5(4)	Formosa Plastics Corp.	Public Supply	Onsite	160	NA	20	23.0
80-20-5B	Carl Snyder	Domestic	950	132	NA	20	18.0
80-20-5(1)	James Woytasczyk	Domestic	1836	97	NA	20	20.0

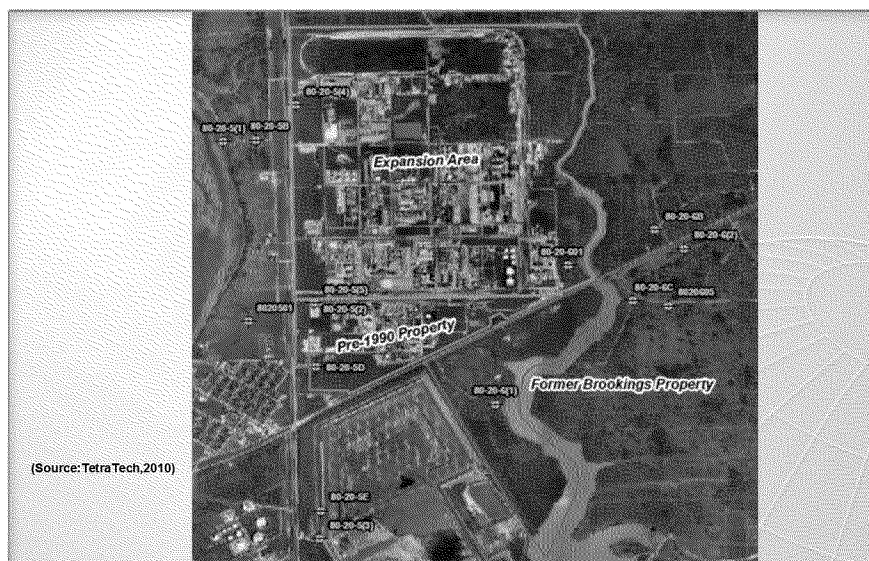
* Elevation was estimated from contours on USGS topographic map.
NA - Not Available

NA - Not Available

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Water Well Survey



(Source: Tetra Tech, 2010)

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Ecological Profile

- Ecological Exclusion Criteria Worksheet
 - Included as Appendix C of the approved RMP
 - Facility meets the exclusion criteria, thus investigation in support of potential ecological risks is not warranted
 - No basis to update this worksheet/evaluation unless it is determined that media associated with Exhibit 1 SWMUs/AOCs is affected.

15



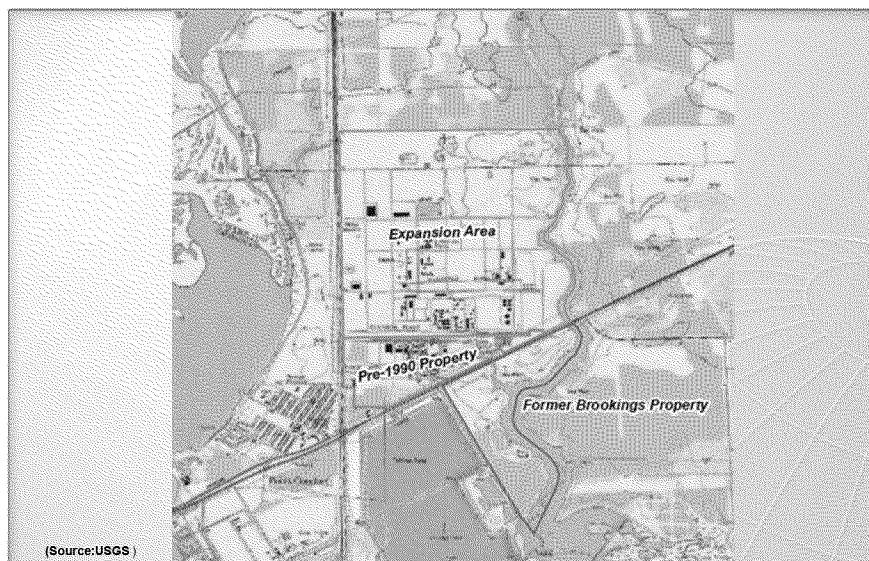
Physical Profile

- Topography
- Surface water drainage
 - ISBL – to CWTP with discharge to Lavaca Bay
 - OSBL – to Outfalls at Cox Creek
- Surface soil
- Subsurface Geology
 - Expect to be similar to pre-1990 area
 - Review of Olefins report indicates possible GWBU shallower than Zone A
- Groundwater
 - Expect to be similar to pre-1990 area

16

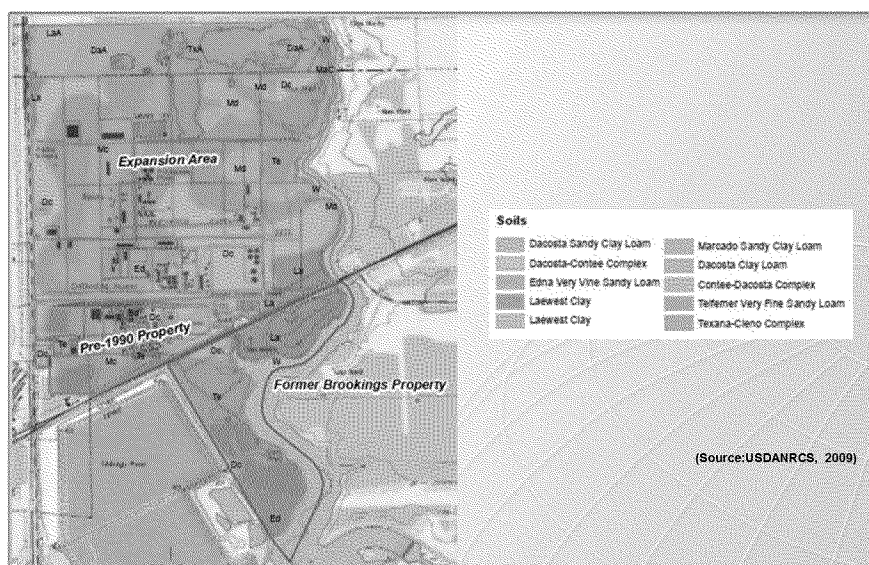


Topography



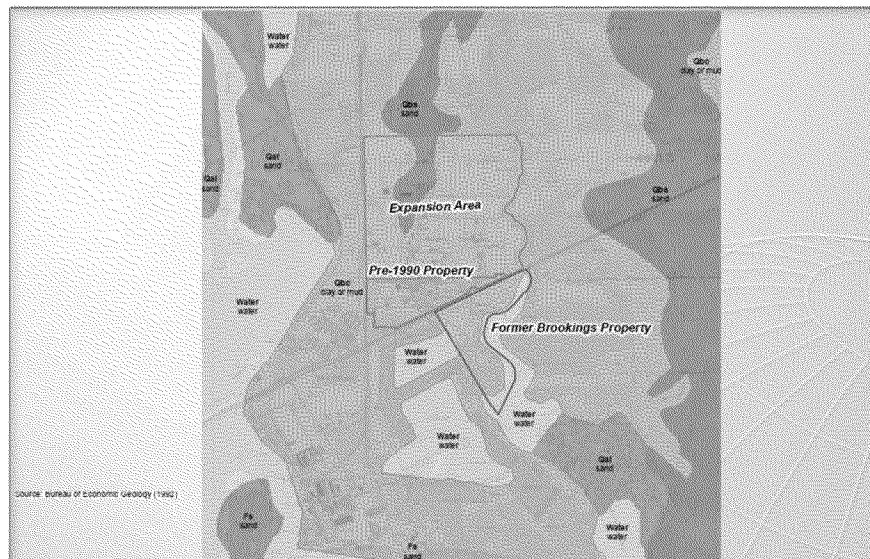
17

Soil Map



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Surface Geology



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Release Profile

- No indication of a release at any of the SWMUs and AOCs in Exhibit 1.
- See areas specific slides for more detail

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Risk Management Profile

- No basis to complete this profile unless it is determined that media associated with Exhibit 1 SWMUs/AOCs is affected.

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Exhibit 1 List

Solid Waste Management Units

1. Hazardous Waste Storage Tank DT405: TCEQ NOR Unit 023
2. Hazardous Waste Storage Tank DT407A: TCEQ NOR Unit 024
3. Hazardous Waste Storage Tank DT407B: TCEQ NOR Unit 025
4. Brine Filter Press Roll-off Box Container Storage Area: TCEQ NOR Unit 026
5. Storage Pad by EDC Unit: TCEQ NOR Unit 031
6. EDC Process Unit within ISBL System Container Storage Area: TCEQ NOR Unit 035
7. HDPE II Process Area within the ISBL System Container Storage Area, also known as HDPE Sump: TCEQ NOR Unit 039
8. Expansion Technical, Less than 90-day Drum Storage Area: TCEQ NOR Unit 042
9. Raw Water Pond Receiving Blow-down from Demineralization Unit, Surface Impoundment: TCEQ NOR Unit 043
10. Chlor-Alkali-IEM Unit within the ISBL System Container Storage Area: TCEQ NOR Unit 045, inactive since August 24, 2009
11. SPVC Technical, Less than 90-day Drum Storage Area: TCEQ NOR Unit 050
12. Olefins Plant Area: Zimpro OL-1 and OL-2 Wet Air Oxidation Units (wastewater treatment under the TPDES permit)
13. Satellite Accumulation Storage Areas
 - a) Laboratory Wastes-Satellite Accumulation Areas
 - b) Spray Painting Wastes- Satellite Accumulation Areas
 - c) Sand Blast Wastes-Satellite Accumulation Areas

Areas of Concern

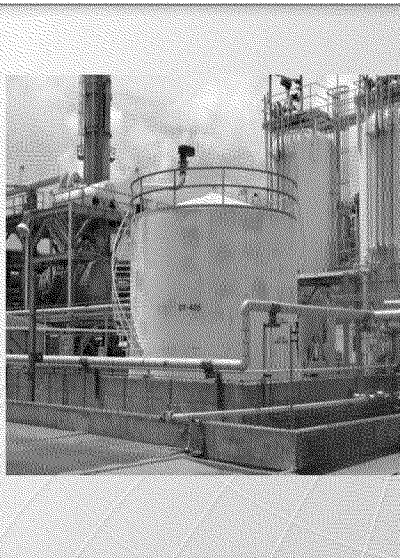
1. Storm Water Outfalls: 6, 7, 8, and 9
2. Soil Debris Piles Northeast of New SPVC Facility
3. LLDPE Plant: Tank DO 815- Water Separation Unit from Die Cut Process
4. LLDPE Plant: Heavy Ends Tank Receiving Waste from the Solvent Recovery Unit
5. HDPE Plant I: Waste Hexane Drum and Waste Hexane Stripper
HDPE Plant II: Tank T801 - Centrifugal Dryer Filtrate Unit
6. Central Maintenance Shop and Maintenance Waste Wash Down Pad, Oil Water Separator, and Used Oil Storage Vessel
7. Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: TCEQ NOR Units 27, 36, 37, 40 and 49

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SWMU-1 (NOR # 23) Hazardous Waste Storage Tank DT-405

- Tank is empty
- Historically managed distillation ends and sold as product
- On file integrity certification reports indicate tank properly maintained
- TCEQ letter dated December 23, 2003 states, “....there has been no release from the above mentioned unit (DT-405) and no response actions are required.”
- Tank was closed on NOR as of April 15, 2004



23



SWMU-2,3 (NOR #s 24, 25) Hazardous Waste Storage Tanks DT-407A/B

- Stored distillation ends that is shipped to another company as a product
- Previously managed as “hazardous waste” storage tanks, until the TCEQ, EPA, and LDEQ agreed that the reuse of the material as a feedstock allowed the site to manage the material as a product and change the status - April 1, 2001
- Tanks are inspected weekly
- No record of any spills



24



SWMU-4 (NOR #26) Brine Filter Press Roll-off Box Container Storage Area

- Brine mud from the Brine FilterPress stored for offsite disposal as a Class 2 nonhazardous waste
- The unit began operations in the early 1990's
- 1 or 2 roll-offs per month
- Materials are stored in roll-offs on concrete with containment in a designated area



25



SWMU-5 (NOR #31) Storage Pad near EDC Unit

- This is the site of a former < 90-day concrete storage pad
- Pad used for thermal desorption of EDC impacted soils
- The area now contains operations not associated with the initial unit
- Inactive storage area is adjacent to the unit (DT-402B) and within where EDC impacted groundwater is being remediated under the TCEQ program
- Inactive on NOR since August 24, 2009

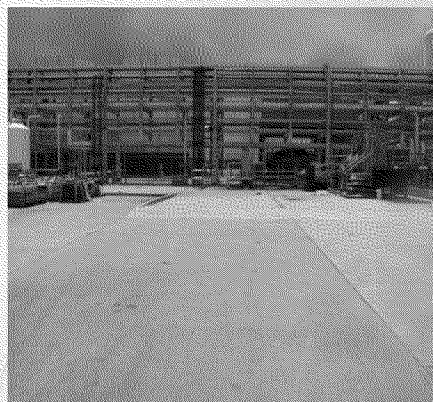


26



SWMU-6 (NOR #35)
EDC Process Unit within ISBL System Container Storage Area

- Less than 90-day storage area
- Active since the early 1990's
- Waste materials from maintenance temporally stored in roll-off boxes
- Container area is on curbed concrete and is inspected weekly
- No record of any spills

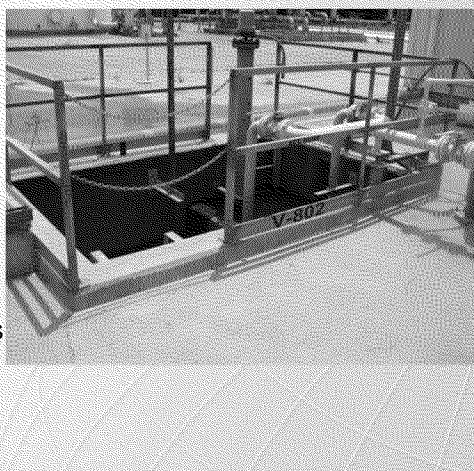


27



SWMU-7 (NOR # 39)
HDPE II Process Area within the ISBL System Container Storage Area

- Receives storm and wash water from contained area where chrome is used
- Installed in the early 2000's
- Initially listed as a hazardous waste unit
- Meets Class 2 nonhazardous wastewater standards
- Tested for total chromium prior to sending to CWTP (< 0.2 mg/L)
- Analytical records demonstrate sump never held RCRA wastes
- Inspected and certified by a Professional Engineer as a "tank" ~ 2010
- No record of any spills



28



SWMU-8 (NOR #42) Less than 90-day Drum Storage Area

- Temporary accumulation of laboratory wastes (solids and liquid) – Technical Area
- The Unit began operations in early 2000's
- No evidence of surface staining within or around the unit's secondary containment
- Inspected weekly per TCEQ's temporary accumulation rules
- No record of any spills



29



SWMU-9 (NOR #43) Raw Water Pond Receiving Blow-Down from Demineralization Unit, Surface Impoundment

- Raw water from Lake Texan in southern part and blow-down water (clarifier sludge) in northern part of pond
- Demineralization Unit uses clarifier to remove solids
- Solids meet Class 2 nonhazardous waste requirements
- Deed Recorded (TAC Per 335.9)
- There are no known contaminants in the raw water supply

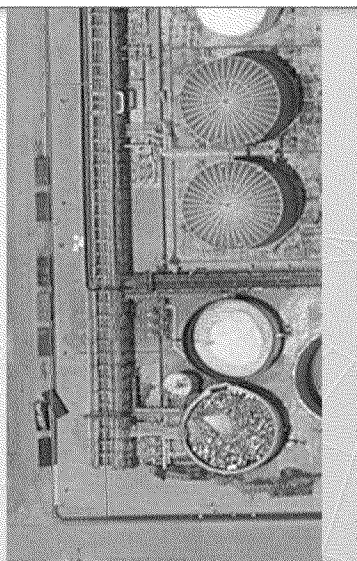


30



SWMU-10(NOR #45)
Chlor-Alkali- IEM Unit Within the ISBL System Container Storage Area

- Waste materials stored (< 90-days) in this area as part of a one-time removal off-spec acid with elevated levels of mercury - 2007
- Material was placed in poly-tanks within contained concrete area and properly disposed of as a hazardous waste
- Poly tanks inspected daily by contractor during project
- No record of any spills



31



SWMU-11 (NOR #50)
SPVC Technical, Less than 90-Day Drum Storage Area

- Temporary accumulation of laboratory wastes
- The SPVC Unit and Secondary containment was constructed and began operations in early 2011
- No evidence of surface staining within or around the unit's concrete secondary containment
- Inspected weekly per TCEQ's temporary accumulation rules
- No record of any spills



32



SWMU-12

Olefins Plant Area: Zimpro OL-1 and OL-2 Wet Air Oxidation Units

- Wastewater treatment units under TPDES Permit
- The wet air oxidation unit (Zimpro) reduces the concentration of sulfides and organic compounds in the caustic solution
- Remaining sulfides in effluent from stripper is treated biologically in the CWTP
- Organic compounds sent to flare and additional VOCs removed from liquid via a steam stripper
- No record of any spills



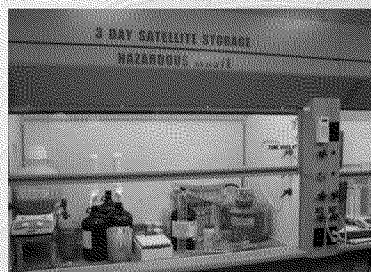
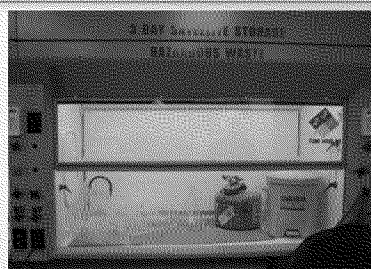
33



SWMU-13a

Satellite Accumulation Area – Laboratory Wastes

- 3-Day Satellite Storage Areas for storage of laboratory wastes
- Typical wastes stored are used rags and gloves and spent lab solvents
- Wastes are transferred daily to the 90-day storage
- These accumulation areas are operated in accordance with TCEQ rules and are inspected daily
- There are no recorded spills from these areas



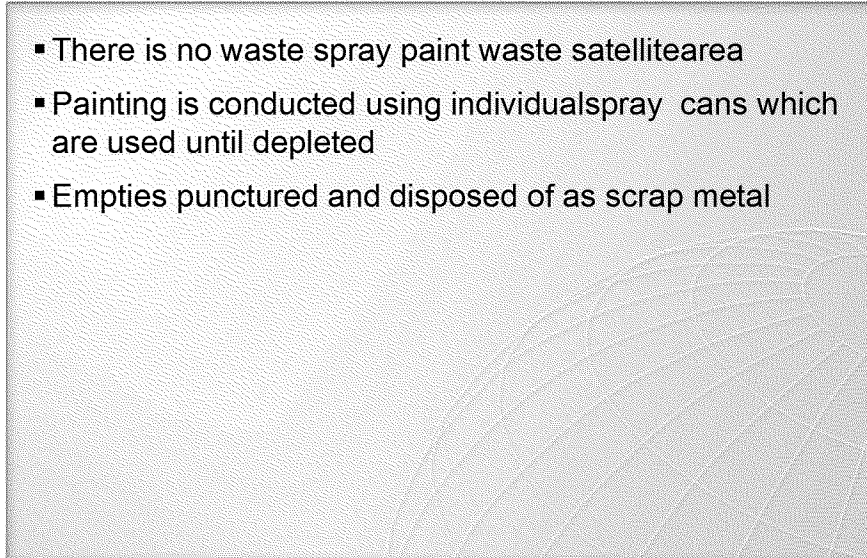
34



SWMU-13b

Satellite Accumulation Area – Spray Painting Wastes

- There is no waste spray paint waste satellite area
- Painting is conducted using individual spray cans which are used until depleted
- Empties punctured and disposed of as scrap metal



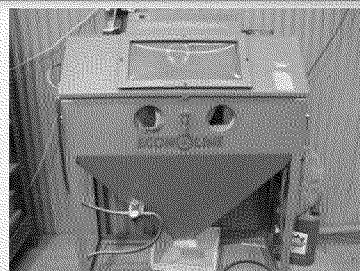
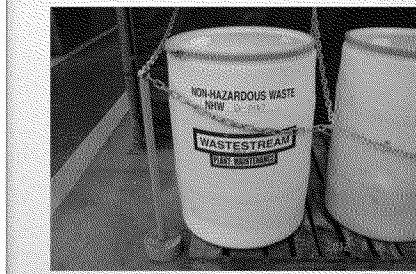
35



SWMU-13c

Satellite Accumulation Area- Sand Blast Wastes

- Valves and small parts
- Baking soda or ceramic bead based media used
- Self-contained units inside maintenance building
- Class 2 nonhazardous waste



36



AOC-1 Storm Water Outfalls #'s 6, 7, 8, and 9

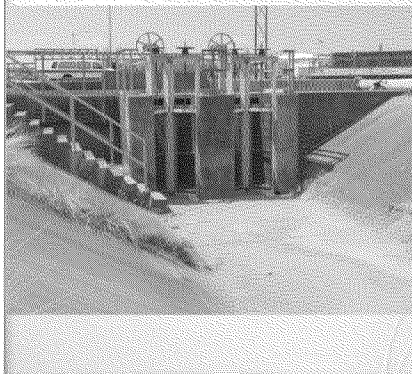
- Water from OSBL
- Managed under Site TPDES Permit
- Permit updated in 2005 – Currently being renewed
- Outfall areas are maintained and cleaned on a regular basis
- Water tested prior to release for TOC, pH, Oil & Grease

37

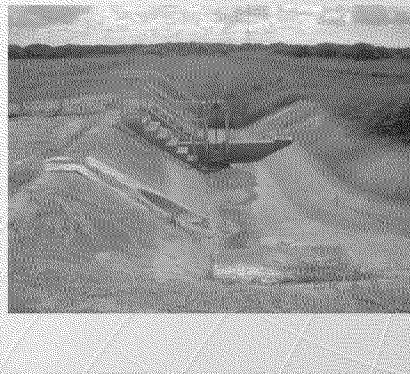


AOC-1 Storm Water Outfalls

Outfall #6



Outfall #7

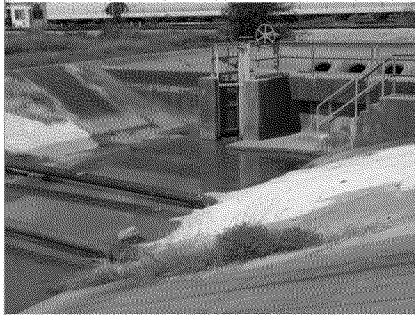


38



AOC-1 Storm Water Outfalls

Outfall #8



Outfall #9

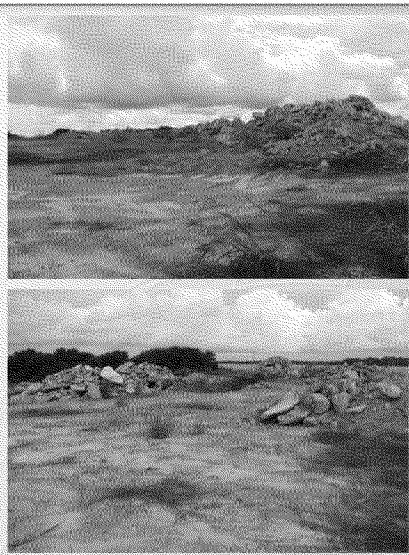


39



AOC-2 Soil Debris Pile Northeast of New SPVC Plant

- Contains soil piles that were excavated as part of the SPVC construction effort
- Piles of concrete debris present in this area from construction activities
- Six soil samples were collected in 2011 for TPH & TCLP VOCs, SVOCs, and Metals
- Soil sample results were at or below the acceptable detection limits for Class 2 nonhazardous waste material classification



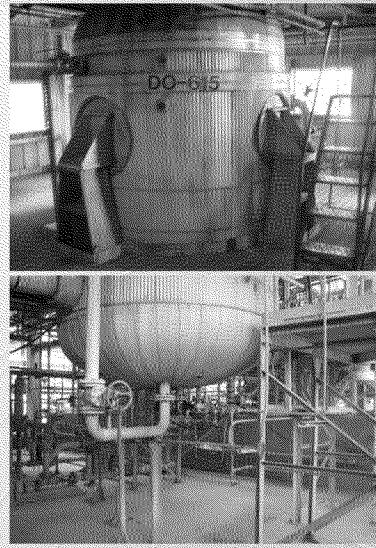
40



AOC-3

LLDPE Plant: Tank DO 615 – Water Separation Unit from Die Cut Process

- Tank DO 615 utilized as a water separation unit as part of the die cut process
- Recovered Hexane sent to FO-530 (AOC-4)
- Above ground & concrete containment
- Liquids tested prior to release to the CWTP
- No record of any spills



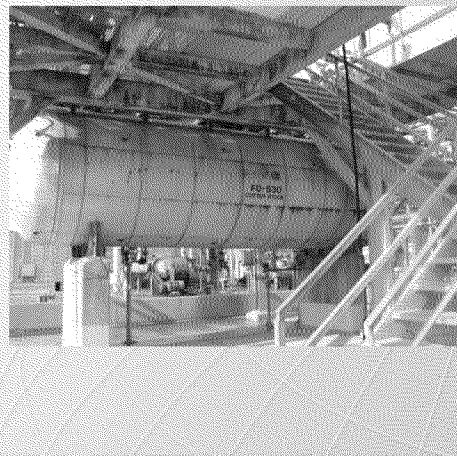
41



AOC-4

LLDPE Plant: Heavy Ends Receiving Waste from the Solvent Recovery Unit

- Receives and stores cutter stock from DO-615 (AOC-3)
- Cutter stock sold as product
- This tank is periodically inspected and sits within a concrete secondary containment
- No record of any spills

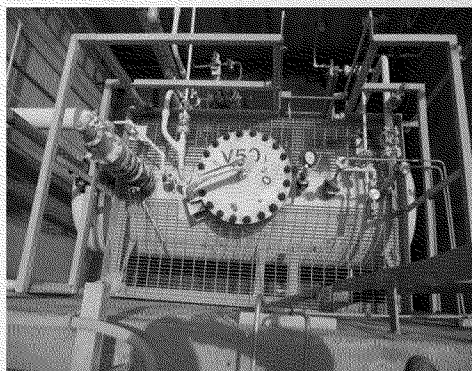


42



AOC-5 HDPE Plant I: Waste Hexane Drum

- This is a manufacturing process unit (MPU) that has been in process since 1995
- No waste is stored or generated in this unit
- The name “waste hexane drum” is used by operations to identify hexane material that requires reprocessing before reuse and is not intended to confer any regulatory classification under the RCRA program
- Material in this unit is piped to the hexane stripper
- No record of any spills



43



AOC-5 HDPE Plant I: Waste Hexane Stripper

- This is a MPU that has been in process since early 1990's
- The term “waste hexane stripper” are used by operations to identify waste material that requires reprocessing before reuse and is not intended to confer any regulatory classifications under the RCRA program
- Unit fed Hexane by the Hexane Drum (AOC-5) and water from dehydration – Water sent to CTWP
- No record of any spills



44



AOC-5

HDPE II: Centrifugal Dryer Filtrate– Pellet Water Tank– T-801 Tank

- This MPU pellet water tank, is used to cool water filtrate before it is sent back to the cutter box to be reused
- A small amount of water is sent to the CWTP
- Unit is contained within secondary containment
- No record of any spills



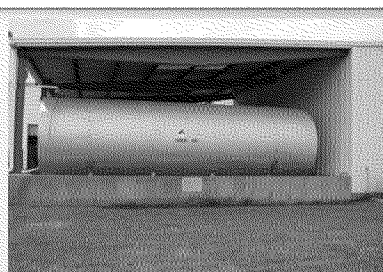
45



AOC-6

Central Maintenance Shop Used Oil Storage Vessel

- Used Oil Storage Vessel holds 15,000 gallons operated since 1994
- FPC Texas is registered with the TCEQ as a Used Oil Collection Center
- Inspected weekly - Secondary containment dike size is 31,626 gallons
- No record of any spills from this area
- There is no evidence of cracks or spills within the tank's secondary containment
- No evidence of surface staining or stressed vegetation outside of the secondary containment



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AOC-6
Central Maintenance Shop and Maintenance Waste Wash Down Pad and Oil-Water Separator

- Washdown pad and oil-water separator (OWS) are considered one unit
- Oil brought to unit by tanker and drums
- Oil collected is sold as used oil
- Wastewater is treated by the CWTP
- OWS is listed in the TPDES application and is authorized by the TPDES permit
- There are areas of residual surface staining in the wash down pad area
- No staining or stressed vegetation outside of the wash down pad



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AOC-7 (NOR #'s 27, 36, 37, 40, and 49)
Combined Wastewater Treatment Plant (CWTP)

- CWTP Unit (NOR 40) began operations in September 1993
- Treats inorganic and organic wastewater prior to discharge
- Bio Filter Press (NOR 27 & 36) and the Roll-off Container Storage Area (NOR 37 & 49) – bio-solids
- Sludge from press is handled as a Class 2 nonhazardous waste
- Stored in roll-offs in the container storage area prior to off-site disposal
- Effluent discharged into Lavaca Bay as a permitted (TPDES) point source
- The CWTP unit is within concrete containment
- No record of any spills



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Corrective Action Objectives

- EPA developed four CAOs for the pre-1990 area.
- In general, these CAOs appear to be appropriate in the event that impacted soil and/or groundwater is identified in the expansion areas identified in Exhibit 1.

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CAO 1 – Contain GW

The groundwater cleanup objective is to contain the plume, rather than return the groundwater to its maximum beneficial use throughout the plume. The groundwater point of compliance (POC) for FPC will be at the Facility boundary (including the former Brookings property), where concentrations of chemicals of concern must be less than or equal to the maximum contaminant limits (MCLs) for drinking water. (In the event an MCL is not established for a chemical of concern, a risk-based action level will be developed.)

50



CAO 2 – Source Removal/Treatment

To support the final groundwater cleanup objective, FPC-TX must remove or treat source material in soils and/or groundwater to the extent practicable. Using the TRRP, soils with concentrations of COCs in excess of the soil saturation limit (C_{sat}) must be addressed, and groundwater with concentrations of COCs in excess of 1% solubility must be addressed through removal or treatment.

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CAO 3 – Worker Protection

For the protection of on-site workers dermal contact or ingestion of COCs in soils, FPC-TX will control or mitigate risks to appropriate TRRP industrial screening levels for surface and subsurface soils. Using TRRP guidance, risk associated with soil concentrations in excess of the appropriate TRRP PCL will be mitigated.

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CAO 4 – Cox Creek

- The corrective action objective for surface water and sediment is to assure protection of human and ecological receptors by monitoring contaminant levels in surface water features associated with Areas of Concern (AOCs)

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Closing

- Schedule
 - Due date for Initial Scoping Meeting Summary
- Coordination with TCEQ for post-closure application
- Communications
- Additional action items

54





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Texas

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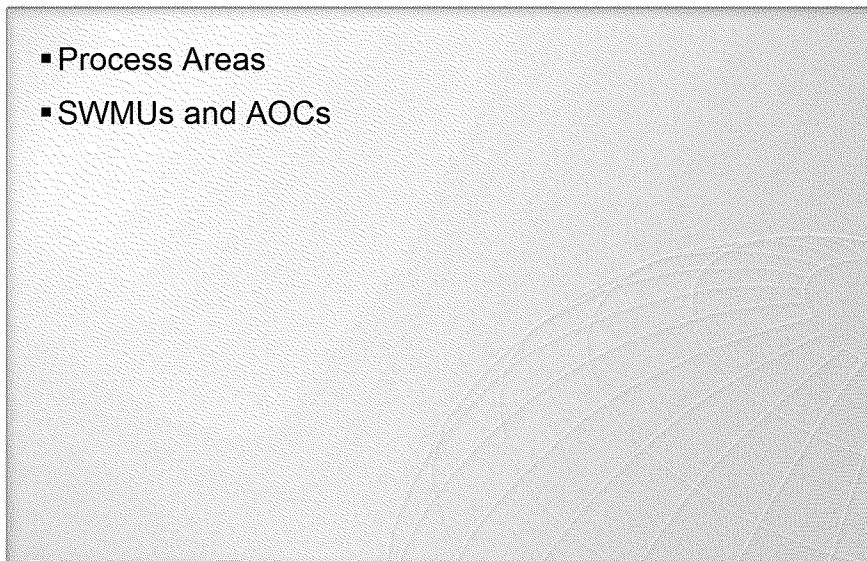
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Facility Profile

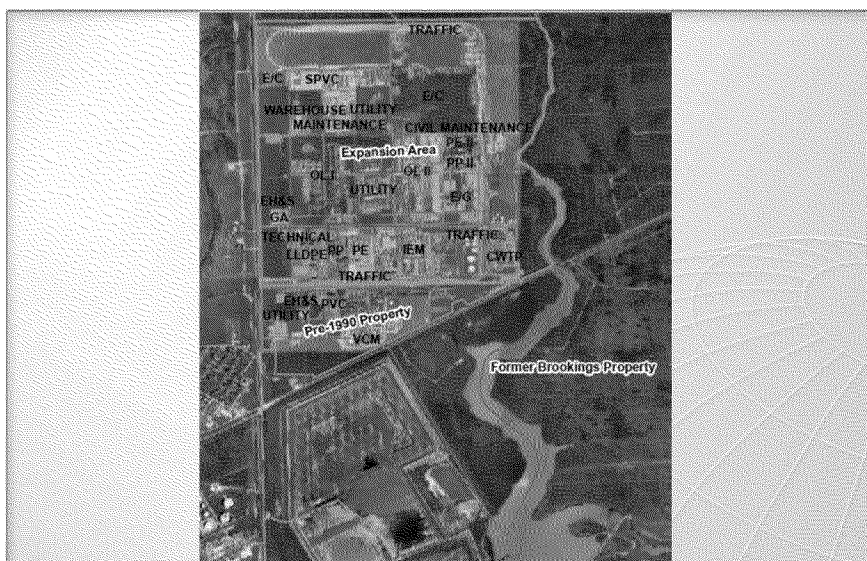
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7



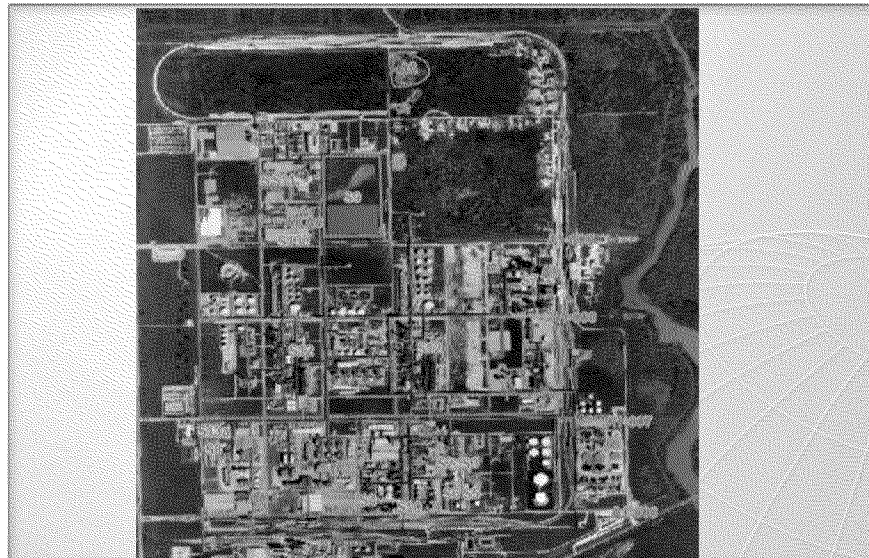
Property Boundary & Process Areas



8



SWMU & AOC Locations



9



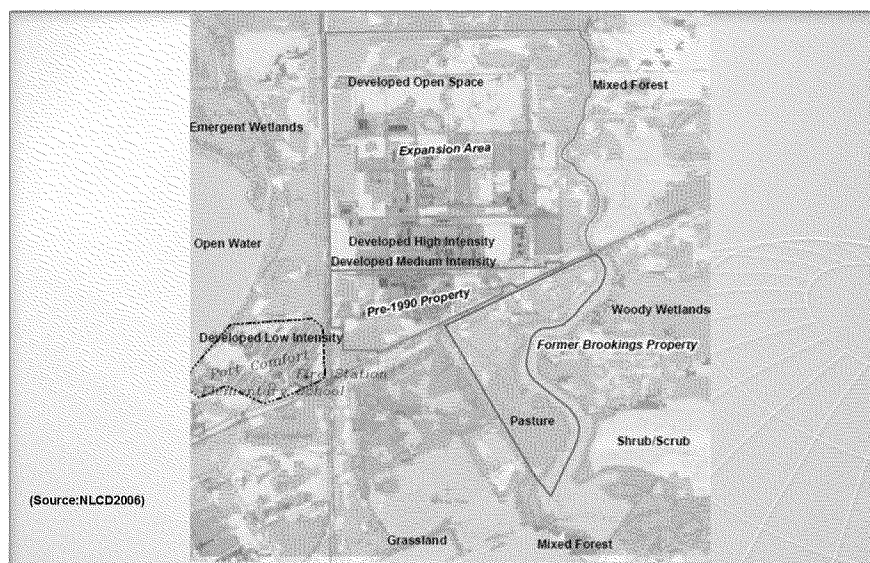
Land Use and Exposure Profile

- Surrounding Land Use
- Wetlands/FloodZone
- Groundwater Classification
 - Class II GW
- WaterSupply Wells
 - EPA WellSurvey?

10



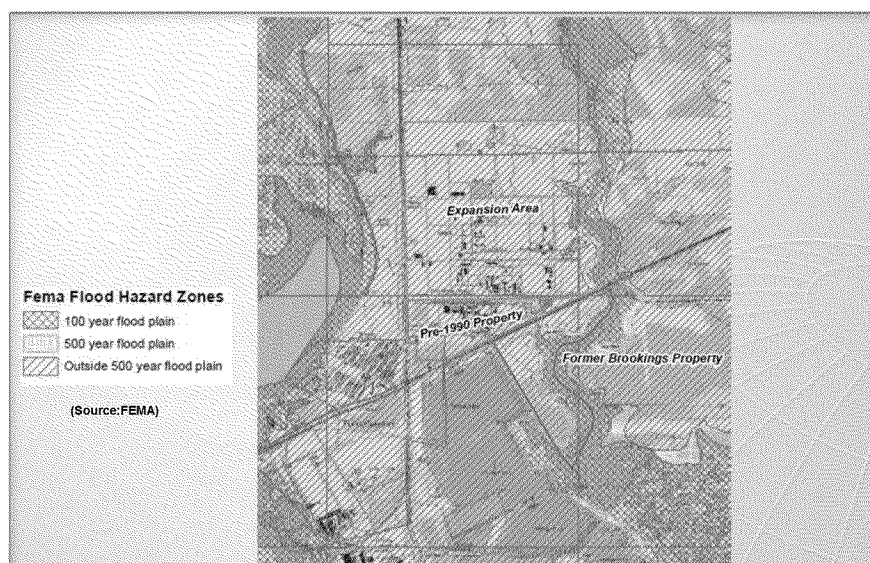
Land Use



11



Flood Hazards



12



Well Survey

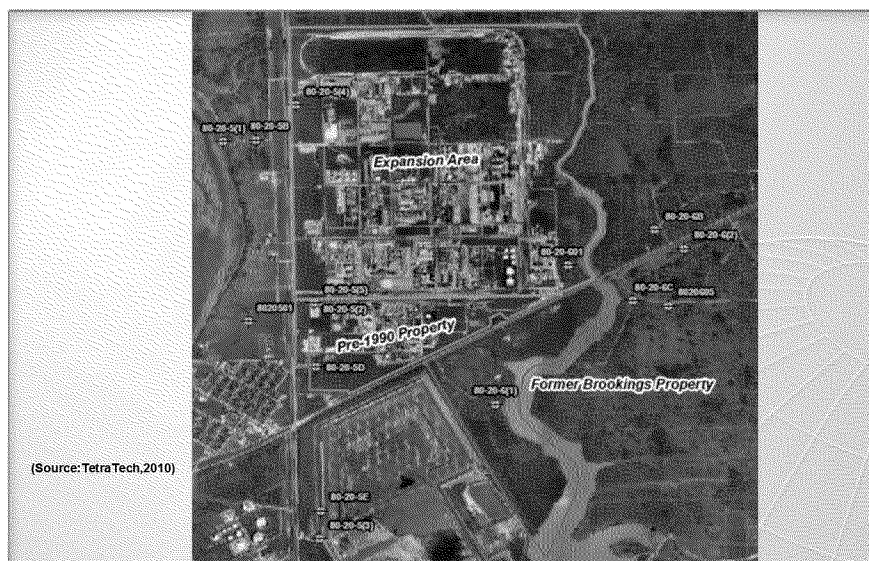
State Well Number	Owner	Well Use	Distance from FPC-TX Facility (ft)	Well Depth (feet)	Aquifer	Elevation (feet)*	Water Level (feet below ground surface)
80-20-5D	Formosa Plastics Corp	Industrial	OnSite	220	NA	20	30.0
8020501	C.S. Traylor	Stock	1230	280	Beaumont	22	31.9
80-20-5(2)	Formosa Plastics Corp	Industrial	OnSite	385	NA	20	42.0
80-20-5E	Richards Drilling	Oil Field/Supply	3569	210	NA	20	15.0
80-20-5(5)	Formosa Plastics Corp	Domestic/Industrial	Onsite	400	NA	20	37.0
80-20-5(3)	Richards Drilling Company	Other - S4	4364	470	NA	20	20.0
80-20-6(1)	F.W.A. Drilling Co.	Supply	2063	335	NA	15	105.0
80-20-6(2)	Mobile Production	Industrial	3535	160	NA	20	40.0
80-20-6B	Bay City Drilling Company	Industrial	3100	272	NA	20	0.0
80-20-6C	Bay City Drilling Company	Industrial	1960	438	NA	20	0.0
8020605	Maude B. Traylor	Stock	2884	117	Beaumont	19	0.0
80-20-601	D.L. Taylor	Stock	793	320	Beaumont	15	35.8
80-20-5(4)	Formosa Plastics Corp	Public Supply	Onsite	160	NA	20	23.0
80-20-5B	Carl Snyder	Domestic	950	132	NA	20	18.0
80-20-5(1)	James Woytaszyk	Domestic	1836	97	NA	20	20.0

* Elevation was estimated from contours on USGS topographic map.
NA - Not Available

13



Water Well Survey



(Source: Tetra Tech, 2010)

14



Ecological Profile

- Ecological Exclusion Criteria Worksheet
 - Included as Appendix C of the approved RMP
 - Facility meets the exclusion criteria, thus investigation in support of potential ecological risks is not warranted
 - No basis to update this worksheet/evaluation unless it is determined that media associated with Exhibit 1 SWMUs/AOCs is affected.

15



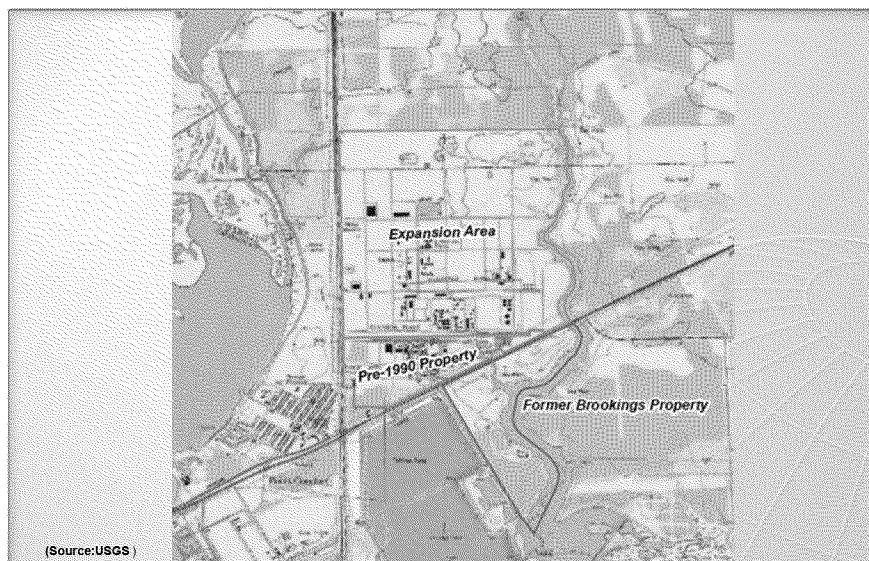
Physical Profile

- Topography
- Surface water drainage
 - ISBL – to CWTP with discharge to Lavaca Bay
 - OSBL – to Outfalls at Cox Creek
- Surface soil
- Subsurface Geology
 - Expect to be similar to pre-1990 area
 - Review of Olefins report indicates possible GWBU shallower than Zone A
- Groundwater
 - Expect to be similar to pre-1990 area

16

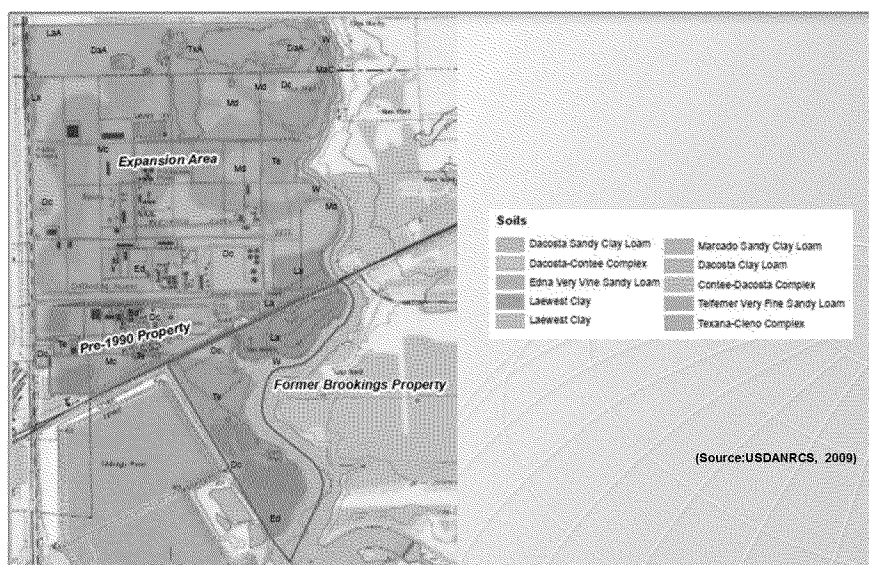


Topography



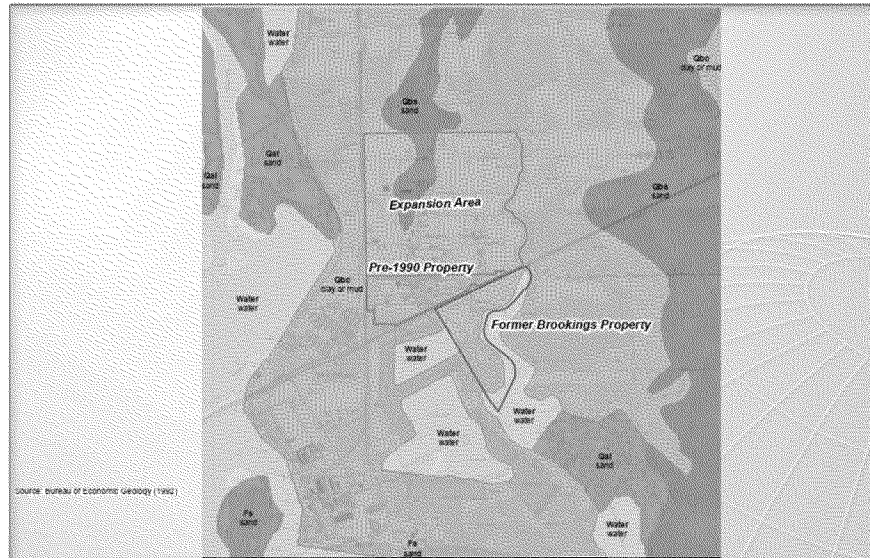
17

Soil Map



18

Surface Geology



19



Release Profile

- No indication of a release at any of the SWMUs and AOCs in Exhibit 1.
- See areas specific slides for more detail

20



Risk Management Profile

- No basis to complete this profile unless it is determined that media associated with Exhibit 1 SWMUs/AOCs is affected.

21



Exhibit 1 List

Solid Waste Management Units

1. Hazardous Waste Storage Tank DT405: TCEQ NOR Unit 023
2. Hazardous Waste Storage Tank DT407A: TCEQ NOR Unit 024
3. Hazardous Waste Storage Tank DT407B: TCEQ NOR Unit 025
4. Brine Filter Press Roll-off Box Container Storage Area: TCEQ NOR Unit 026
5. Storage Pad by EDC Unit: TCEQ NOR Unit 031
6. EDC Process Unit within ISBL System Container Storage Area: TCEQ NOR Unit 035
7. HDPE II Process Area within the ISBL System Container Storage Area, also known as HDPE Sump: TCEQ NOR Unit 039
8. Expansion Technical, Less than 90-day Drum Storage Area: TCEQ NOR Unit 042
9. Raw Water Pond Receiving Blow-down from Demineralization Unit, Surface Impoundment: TCEQ NOR Unit 043
10. Chlor-Alkali-IEM Unit within the ISBL System Container Storage Area: TCEQ NOR Unit 045, inactive since August 24, 2009
11. SPVC Technical, Less than 90-day Drum Storage Area: TCEQ NOR Unit 050
12. Olefins Plant Area: Zimpro OL-1 and OL-2 Wet Air Oxidation Units (wastewater treatment under the TPDES permit)
13. Satellite Accumulation Storage Areas
 - a) Laboratory Wastes-Satellite Accumulation Areas
 - b) Spray Painting Wastes-Satellite Accumulation Areas
 - c) Sand Blast Wastes-Satellite Accumulation Areas

Areas of Concern

1. Storm Water Outfalls: 6, 7, 8, and 9
2. Soil Debris Piles Northeast of New SPVC Facility
3. LLDPE Plant: Tank DO 815- Water Separation Unit from Die Cut Process
4. LLDPE Plant: Heavy Ends Tank Receiving Waste from the Solvent Recovery Unit
5. HDPE Plant I: Waste Hexane Drum and Waste Hexane Stripper
HDPE Plant II: Tank T801 - Centrifugal Dryer Filtrate Unit
6. Central Maintenance Shop and Maintenance Waste Wash Down Pad, Oil Water Separator, and Used Oil Storage Vessel
7. Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: TCEQ NOR Units 27, 36, 37, 40 and 49

22



SWMU-1 (NOR # 23) Hazardous Waste Storage Tank DT-405

- Tank is empty
- Historically managed distillation ends and sold as product
- On file integrity certification reports indicate tank properly maintained
- TCEQ letter dated December 23, 2003 states, “....there has been no release from the above mentioned unit (DT-405) and no response actions are required.”
- Tank was closed on NOR as of April 15, 2004



23



SWMU-2,3 (NOR #s 24, 25) Hazardous Waste Storage Tanks DT-407A/B

- Stored distillation ends that is shipped to another company as a product
- Previously managed as “hazardous waste” storage tanks, until the TCEQ, EPA, and LDEQ agreed that the reuse of the material as a feedstock allowed the site to manage the material as a product and change the status - April 1, 2001
- Tanks are inspected weekly
- No record of any spills



24



SWMU-4 (NOR #26) Brine Filter Press Roll-off Box Container Storage Area

- Brine mud from the Brine FilterPress stored for offsite disposal as a Class 2 nonhazardous waste
- The unit began operations in the early 1990's
- 1 or 2 roll-offs per month
- Materials are stored in roll-offs on concrete with containment in a designated area



25



SWMU-5 (NOR #31) Storage Pad near EDC Unit

- This is the site of a former < 90-day concrete storage pad
- Pad used for thermal desorption of EDC impacted soils
- The area now contains operations not associated with the initial unit
- Inactive storage area is adjacent to the unit (DT-402B) and within where EDC impacted groundwater is being remediated under the TCEQ program
- Inactive on NOR since August 24, 2009

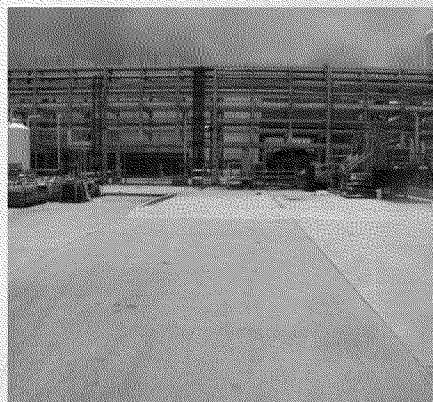


26



SWMU-6 (NOR #35)
EDC Process Unit within ISBL System Container Storage Area

- Less than 90-day storage area
- Active since the early 1990's
- Waste materials from maintenance temporally stored in roll-off boxes
- Container area is on curbed concrete and is inspected weekly
- No record of any spills

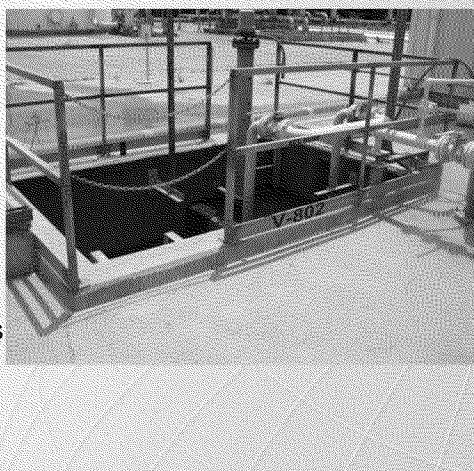


27



SWMU-7 (NOR # 39)
HDPE II Process Area within the ISBL System Container Storage Area

- Receives storm and wash water from contained area where chrome is used
- Installed in the early 2000's
- Initially listed as a hazardous waste unit
- Meets Class 2 nonhazardous wastewater standards
- Tested for total chromium prior to sending to CWTP (< 0.2 mg/L)
- Analytical records demonstrate sump never held RCRA wastes
- Inspected and certified by a Professional Engineer as a "tank" ~ 2010
- No record of any spills



28



SWMU-8 (NOR #42) Less than 90-day Drum Storage Area

- Temporary accumulation of laboratory wastes (solids and liquid) – Technical Area
- The Unit began operations in early 2000's
- No evidence of surface staining within or around the unit's secondary containment
- Inspected weekly per TCEQ's temporary accumulation rules
- No record of any spills



29



SWMU-9 (NOR #43) Raw Water Pond Receiving Blow-Down from Demineralization Unit, Surface Impoundment

- Raw water from Lake Texan in southern part and blow-down water (clarifier sludge) in northern part of pond
- Demineralization Unit uses clarifier to remove solids
- Solids meet Class 2 nonhazardous waste requirements
- Deed Recorded (TAC Per 335.9)
- There are no known contaminants in the raw water supply

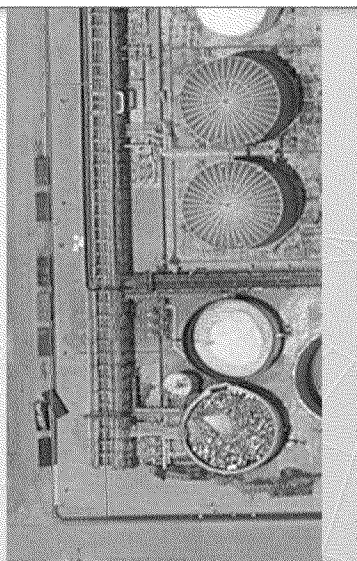


30



SWMU-10(NOR #45)
Chlor-Alkali- IEM Unit Withinthe ISBL System ContainerStorageArea

- Waste materials stored (< 90-days) in this area as part of a one-time removal off-spec acid with elevated levels of mercury - 2007
- Material was placed in poly-tanks within contained concrete area and properly disposed of as a hazardous waste
- Poly tanks inspected daily by contractor during project
- No record of any spills



31



SWMU-11 (NOR #50)
SPVC Technical,Less than 90-Day Drum Storage Area

- Temporary accumulationof laboratory wastes
- The SPVC Unit and Secondary containmentwas constructed and began operations in early 2011
- No evidenceof surface staining within or around the unit's concrete secondary containment
- Inspected weekly per TCEQ's temporary accumulationrules
- No record of any spills



32



SWMU-12

Olefins Plant Area: Zimpro OL-1 and OL-2 Wet Air Oxidation Units

- Wastewater treatment units under TPDES Permit
- The wet air oxidation unit (Zimpro) reduces the concentration of sulfides and organic compounds in the caustic solution
- Remaining sulfides in effluent from stripper is treated biologically in the CWTP
- Organic compounds sent to flare and additional VOCs removed from liquid via a steam stripper
- No record of any spills



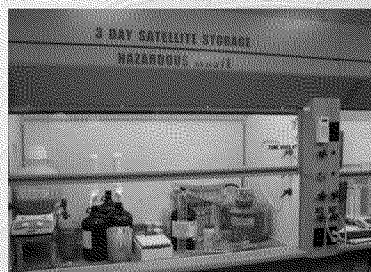
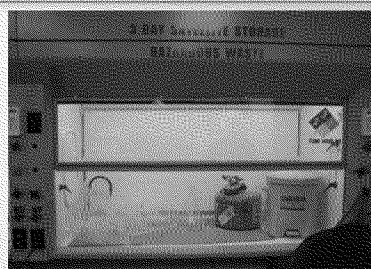
33



SWMU-13a

Satellite Accumulation Area – Laboratory Wastes

- 3-Day Satellite Storage Areas for storage of laboratory wastes
- Typical wastes stored are used rags and gloves and spent lab solvents
- Wastes are transferred daily to the 90-day storage
- These accumulation areas are operated in accordance with TCEQ rules and are inspected daily
- There are no recorded spills from these areas



34



SWMU-13b

Satellite Accumulation Area – Spray Painting Wastes

- There is no waste spray paint waste satellite area
- Painting is conducted using individual spray cans which are used until depleted
- Empties punctured and disposed of as scrap metal

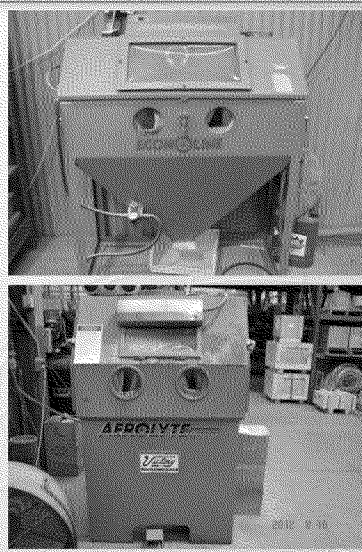
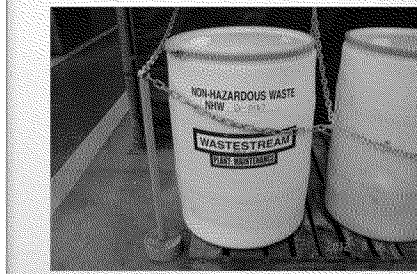
35



SWMU-13c

Satellite Accumulation Area- Sand Blast Wastes

- Valves and small parts
- Baking soda or ceramic bead based media used
- Self-contained units inside maintenance building
- Class 2 nonhazardous waste



36



AOC-1 Storm Water Outfalls #'s 6, 7, 8, and 9

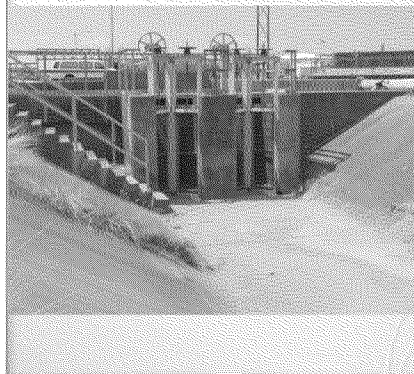
- Water from OSBL
- Managed under Site TPDES Permit
- Permit updated in 2005 – Currently being renewed
- Outfall areas are maintained and cleaned on a regular basis
- Water tested prior to release for TOC, pH, Oil & Grease

37

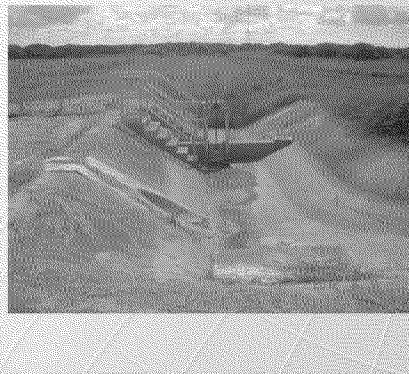


AOC-1 Storm Water Outfalls

Outfall #6



Outfall #7

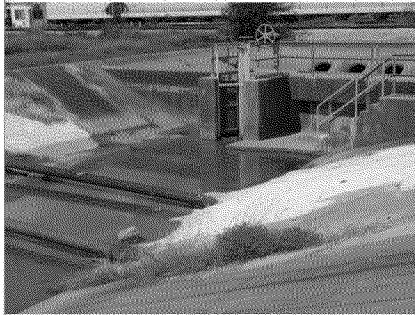


38



AOC-1 Storm Water Outfalls

Outfall #8



Outfall #9

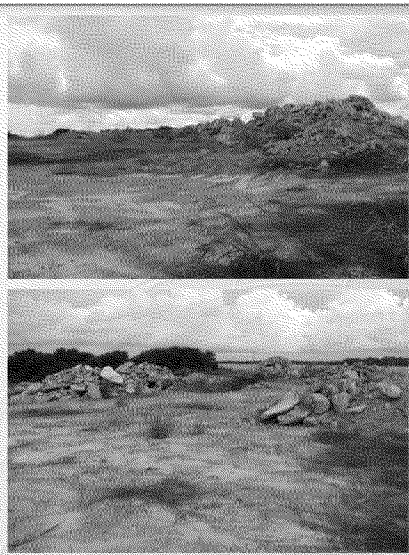


39



AOC-2 Soil Debris Pile Northeast of New SPVC Plant

- Contains soil piles that were excavated as part of the SPVC construction effort
- Piles of concrete debris present in this area from construction activities
- Six soil samples were collected in 2011 for TPH & TCLP VOCs, SVOCs, and Metals
- Soil sample results were at or below the acceptable detection limits for Class 2 nonhazardous waste material classification



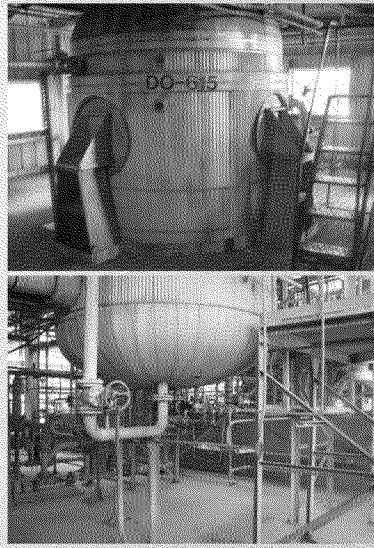
40



AOC-3

LLDPE Plant: Tank DO 615 – Water Separation Unit from Die Cut Process

- Tank DO 615 utilized as a water separation unit as part of the die cut process
- Recovered Hexane sent to FO-530 (AOC-4)
- Above ground & concrete containment
- Liquids tested prior to release to the CWTP
- No record of any spills



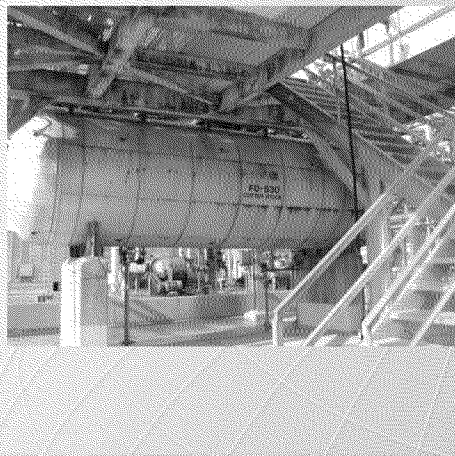
41



AOC-4

LLDPE Plant: Heavy Ends Receiving Waste from the Solvent Recovery Unit

- Receives and stores cutter stock from DO-615 (AOC-3)
- Cutter stock sold as product
- This tank is periodically inspected and sits within a concrete secondary containment
- No record of any spills

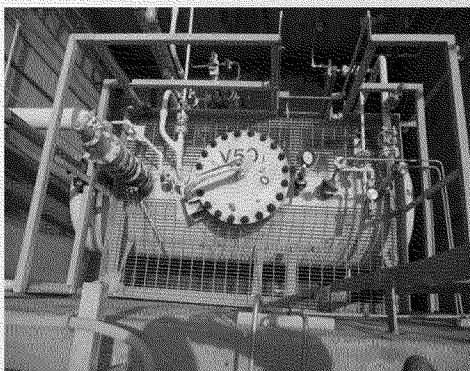


42



AOC-5 HDPE Plant I: Waste Hexane Drum

- This is a manufacturing process unit (MPU) that has been in process since 1995
- No waste is stored or generated in this unit
- The name “waste hexane drum” is used by operations to identify hexane material that requires reprocessing before reuse and is not intended to confer any regulatory classification under the RCRA program
- Material in this unit is piped to the hexane stripper
- No record of any spills



43



AOC-5 HDPE Plant I: Waste Hexane Stripper

- This is a MPU that has been in process since early 1990's
- The term “waste hexane stripper” are used by operations to identify waste material that requires reprocessing before reuse and is not intended to confer any regulatory classifications under the RCRA program
- Unit fed Hexane by the Hexane Drum (AOC-5) and water from dehydration – Water sent to CTWP
- No record of any spills



44



AOC-5

HDPE II: Centrifugal Dryer Filtrate– Pellet Water Tank– T-801 Tank

- This MPU pellet water tank, is used to cool water filtrate before it is sent back to the cutter box to be reused
- A small amount of water is sent to the CWTP
- Unit is contained within secondary containment
- No record of any spills



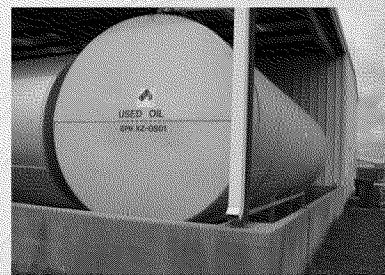
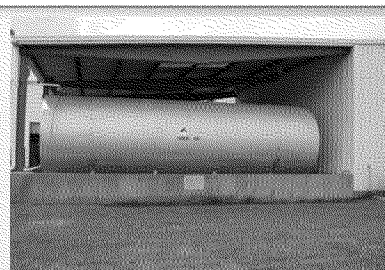
45



AOC-6

Central Maintenance Shop Used Oil Storage Vessel

- Used Oil Storage Vessel holds 15,000 gallons operated since 1994
- FPC Texas is registered with the TCEQ as a Used Oil Collection Center
- Inspected weekly - Secondary containment dike size is 31,626 gallons
- No record of any spills from this area
- There is no evidence of cracks or spills within the tank's secondary containment
- No evidence of surface staining or stressed vegetation outside of the secondary containment



46



AOC-6
Central Maintenance Shop and Maintenance Waste Wash Down Pad and Oil-Water Separator

- Washdown pad and oil-water separator (OWS) are considered one unit
- Oil brought to unit by tanker and drums
- Oil collected is sold as used oil
- Wastewater is treated by the CWTP
- OWS is listed in the TPDES application and is authorized by the TPDES permit
- There are areas of residual surface staining in the wash down pad area
- No staining or stressed vegetation outside of the wash down pad



47



AOC-7 (NOR #'s 27, 36, 37, 40, and 49)
Combined Wastewater Treatment Plant (CWTP)

- CWTP Unit (NOR 40) began operations in September 1993
- Treats inorganic and organic wastewater prior to discharge
- Bio Filter Press (NOR 27 & 36) and the Roll-off Container Storage Area (NOR 37 & 49) – bio-solids
- Sludge from press is handled as a Class 2 nonhazardous waste
- Stored in roll-offs in the container storage area prior to off-site disposal
- Effluent discharged into Lavaca Bay as a permitted (TPDES) point source
- The CWTP unit is within concrete containment
- No record of any spills



48



Corrective Action Objectives

- EPA developed four CAOs for the pre-1990 area.
- In general, these CAOs appear to be appropriate in the event that impacted soil and/or groundwater is identified in the expansion areas identified in Exhibit 1.

49



CAO 1 – Contain GW

The groundwater cleanup objective is to contain the plume, rather than return the groundwater to its maximum beneficial use throughout the plume. The groundwater point of compliance (POC) for FPC will be at the Facility boundary (including the former Brookings property), where concentrations of chemicals of concern must be less than or equal to the maximum contaminant limits (MCLs) for drinking water. (In the event an MCL is not established for a chemical of concern, a risk-based action level will be developed.)

50



CAO 2 – Source Removal/Treatment

To support the final groundwater cleanup objective, FPC-TX must remove or treat source material in soils and/or groundwater to the extent practicable. Using the TRRP, soils with concentrations of COCs in excess of the soil saturation limit (C_{sat}) must be addressed, and groundwater with concentrations of COCs in excess of 1% solubility must be addressed through removal or treatment.

51



CAO 3 – Worker Protection

For the protection of on-site workers dermal contact or ingestion of COCs in soils, FPC-TX will control or mitigate risks to appropriate TRRP industrial screening levels for surface and subsurface soils. Using TRRP guidance, risk associated with soil concentrations in excess of the appropriate TRRP PCL will be mitigated.

52



CAO 4 – Cox Creek

- The corrective action objective for surface water and sediment is to assure protection of human and ecological receptors by monitoring contaminant levels in surface water features associated with Areas of Concern (AOCs)

53



Closing

- Schedule
 - Due date for Initial Scoping Meeting Summary
- Coordination with TCEQ for post-closure application
- Communications
- Additional action items

54





TETRA TECH

INITIAL SCOPING MEETING 3008(a) CAFO

Formosa Plastics Corporation -
Texas

3008(a)/3008(h) and Post-Closure

- Pre-1990 Facility Area is covered by existing 3008(h) order; includes the former Brookings Property
- Expansion facility areas as defined in Exhibit 1 are covered by the 3008(a) order.
- A post-closure permit/order application is being prepared for submittal to TCEQ covering the entire facility. Upon issuance of the permit, both the (h) and the (a) order will terminate - ~ 2 years



TETRA TECH

3008(a) CAFO

Section VII identifies 9 tasks to be completed

- Post Closure application
- Initial Scoping Meeting
- Initial Scoping Meeting Summary
- Draft & Final CAS Work Plan
- Draft & Final updated RMP
- Draft & Final updated CRP and SMP

Tasks are based on approach described in EPA Corrective Action Strategy (CAS)

3



General Approach to Expansion Area

1. Document status and evaluate need to investigate Exhibit 1 areas ("Scoping Meeting")
2. Prepare a WP to investigate those Exhibit 1 areas that are not NFA ("CAS WP")
 - First priority will be to determine if impacted media is actually present
 - Second priority will be resolving potential CSM data gaps: if there is no impacted media (no release) there is no need for a CSM.
3. Results of investigation documented in updated RMP
 - Updated RMP will include site-wide information
4. CRP and SMP will be updated following approval of the RMP to incorporate additional information as warranted.

4



Initial Scoping Meeting

- CAFO, Section VII, Para. 30 directs FPC-TX to participate in an initial scoping meeting with EPA and TCEQ. Specifically, FPC-TX is directed to:
 - Document status of each SWMU and AOC included in Exhibit 1 of the CAFO
 - Evaluate need to perform corrective action activities at each Exhibit 1 SWMU and AOC

5



Conceptual Site Model

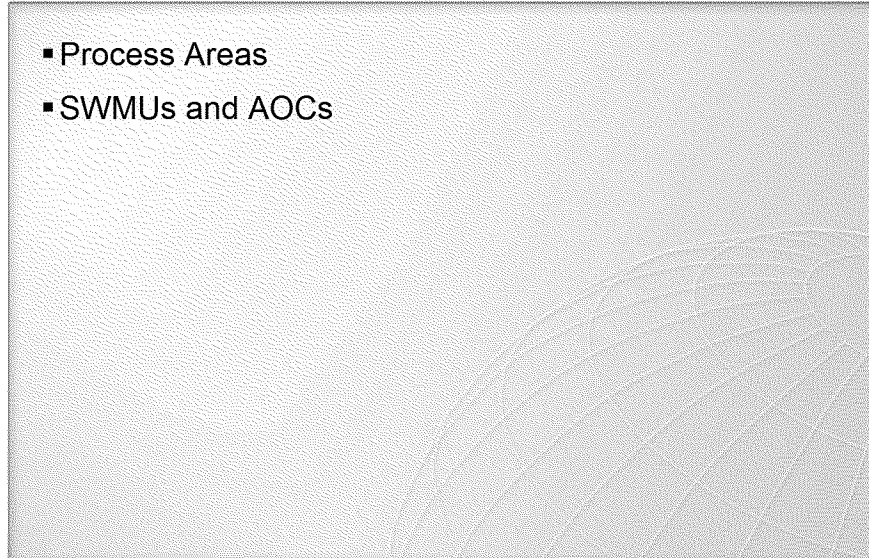
- A CSM as defined by CAS consists of six elements:
 - Facility Profile
 - Land Use and Exposure Profile
 - Ecological Profile
 - Physical Profile
 - Release Profile
 - Risk Management Profile

6



Facility Profile

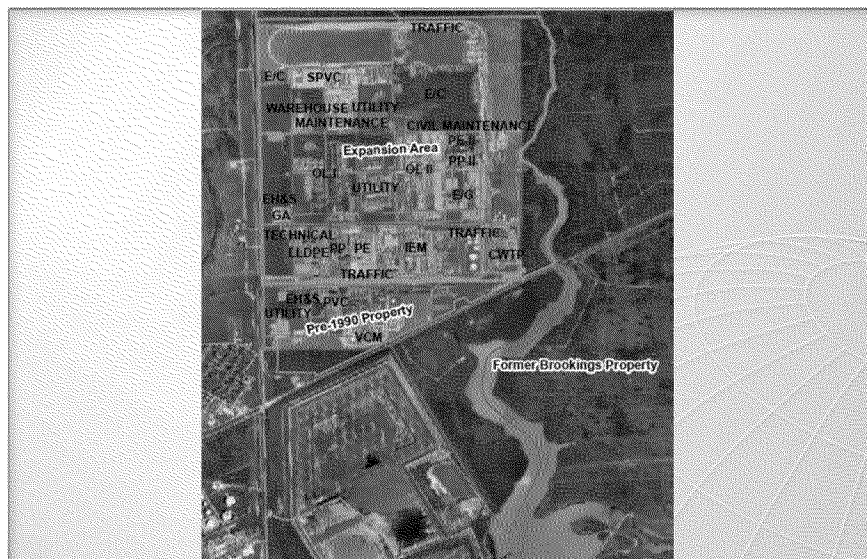
- Process Areas
- SWMUs and AOCs



7



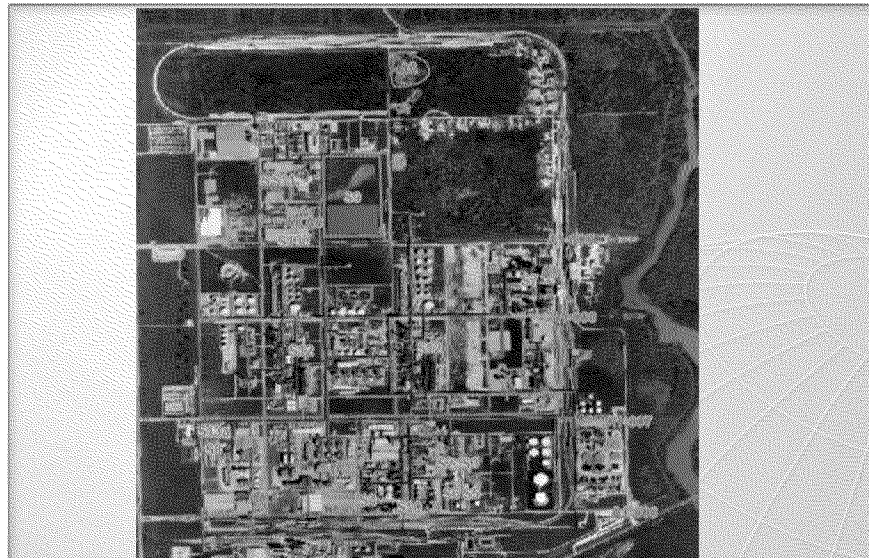
Property Boundary & Process Areas



8



SWMU & AOC Locations



9



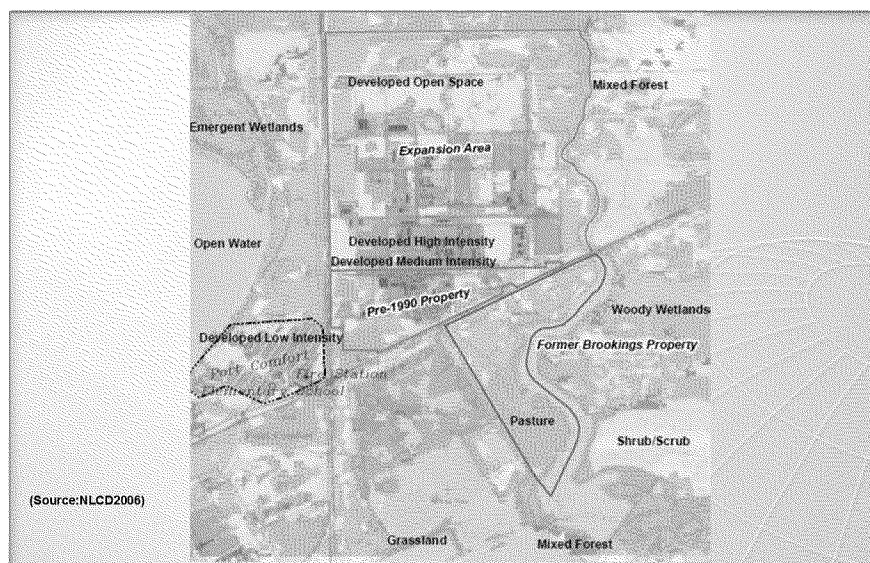
Land Use and Exposure Profile

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10



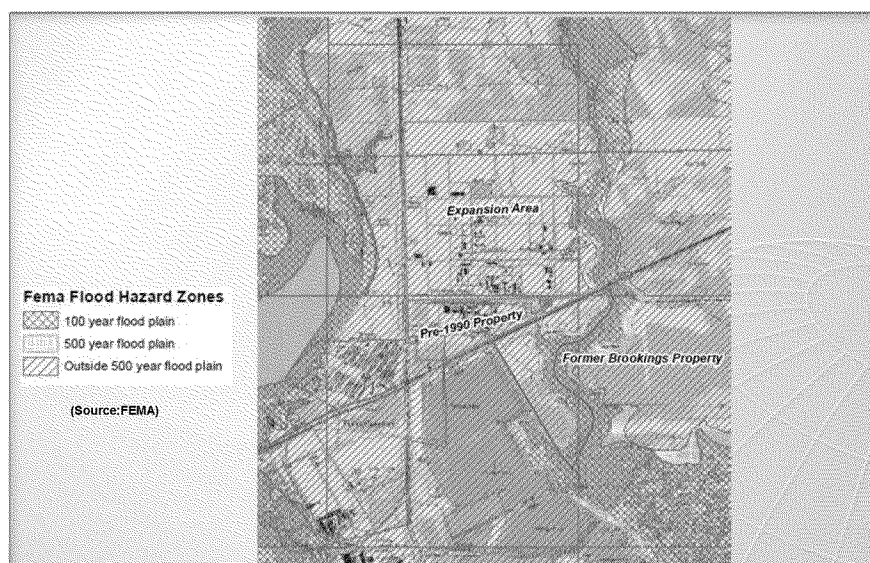
Land Use



11



Flood Hazards



12



Well Survey

State Well Number	Owner	Well Use	Distance from PFC-TX Facility (ft)	Well Depth (feet)	Aquifer	Elevation (feet)*	Water Level (feet below ground surface)
80-20-5D	Formosa Plastics Corp.	Industrial	OnSite	220	NA	20	30.0
8020501	C.S. Traylor	Stock	1230	280	Beaumont	22	31.9
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80-20-6(2)	Mobile Production	Industrial	3535	160	NA	20	40.0
80-20-6B	Bay City Drilling Company	Industrial	3100	272	NA	20	0.0
80-20-6C	Bay City Drilling Company	Industrial	1960	438	NA	20	0.0
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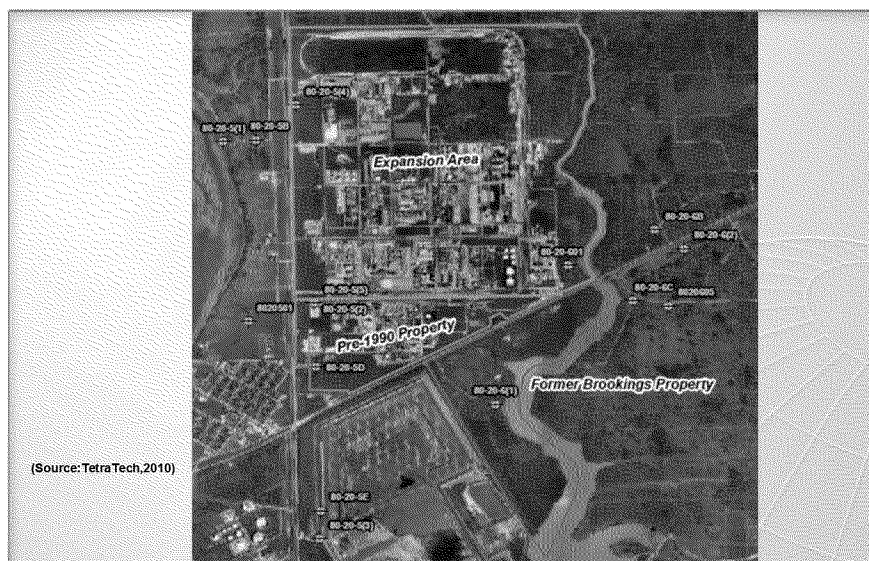
* Elevation was estimated from contours on USGS topographic map.
NA - Not Available

NA - Not Available

13



Water Well Survey



(Source: Tetra Tech, 2010)

14



Ecological Profile

- Ecological Exclusion Criteria Worksheet
 - Included as Appendix C of the approved RMP
 - Facility meets the exclusion criteria, thus investigation in support of potential ecological risks is not warranted
 - No basis to update this worksheet/evaluation unless it is determined that media associated with Exhibit 1 SWMUs/AOCs is affected.

15



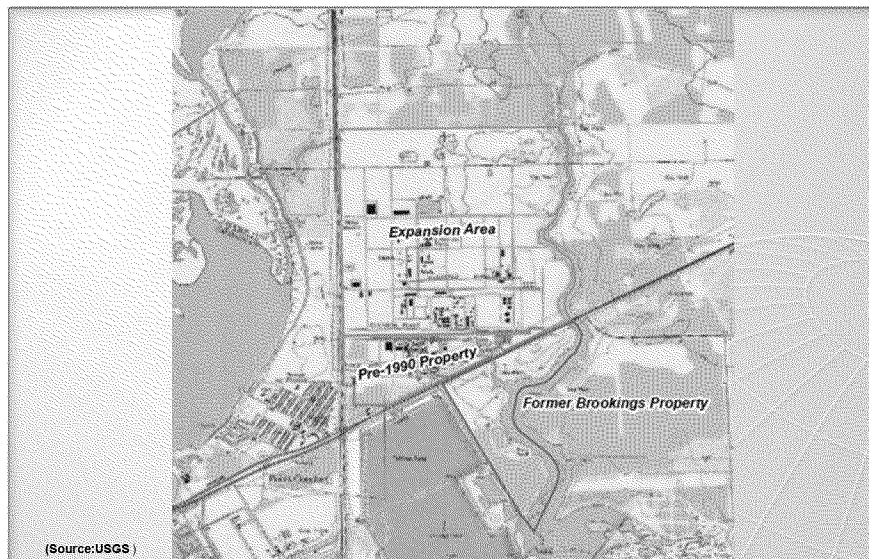
Physical Profile

- Topography
- Surface water drainage
 - ISBL – to CWTP with discharge to Lavaca Bay
 - OSBL – to Outfalls at Cox Creek
- Surface soil
- Subsurface Geology
 - Expect to be similar to pre-1990 area
 - Review of Olefins report indicates possible GWBU shallower than Zone A
- Groundwater
 - Expect to be similar to pre-1990 area

16



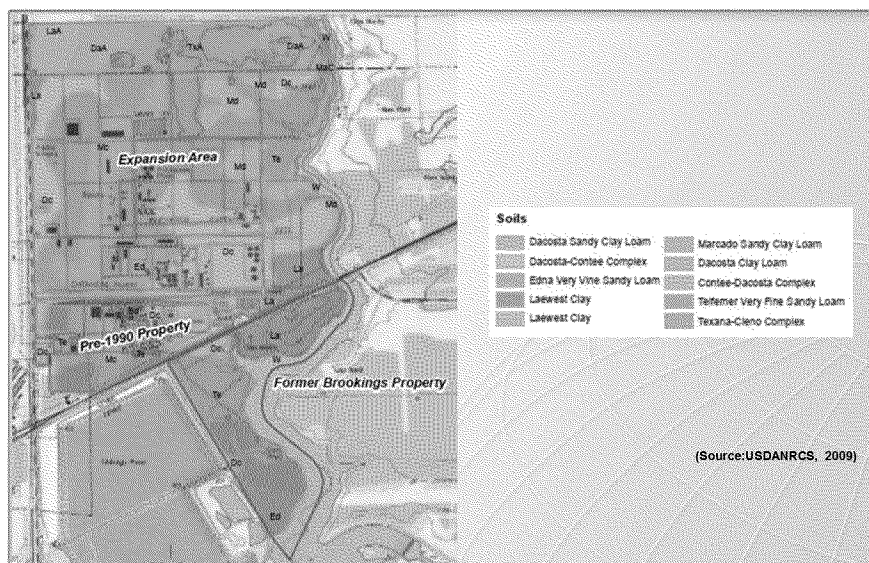
Topography



17



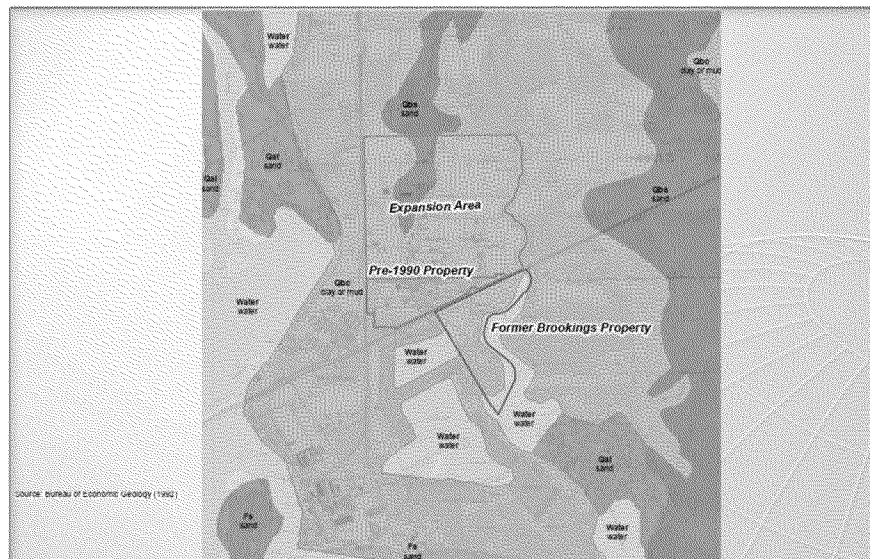
Soil Map



18



Surface Geology

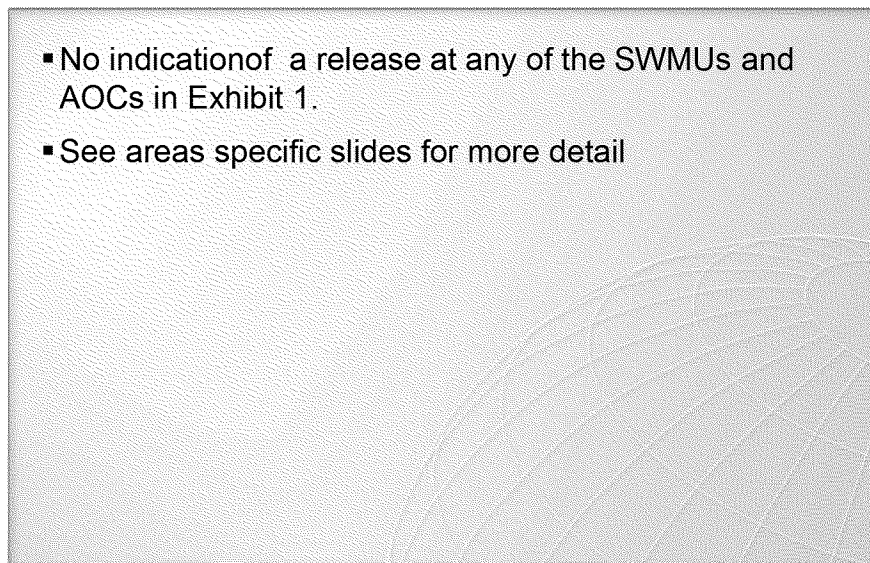


19



Release Profile

- No indication of a release at any of the SWMUs and AOCs in Exhibit 1.
- See areas specific slides for more detail



20



Risk Management Profile

- No basis to complete this profile unless it is determined that media associated with Exhibit 1 SWMUs/AOCs is affected.

21



Exhibit 1 List

Solid Waste Management Units

1. Hazardous Waste Storage Tank DT405: TCEQ NOR Unit 023
2. Hazardous Waste Storage Tank DT407A: TCEQ NOR Unit 024
3. Hazardous Waste Storage Tank DT407B: TCEQ NOR Unit 025
4. Brine Filter Press Roll-off Box Container Storage Area: TCEQ NOR Unit 026
5. Storage Pad by EDC Unit: TCEQ NOR Unit 031
6. EDC Process Unit within ISBL System Container Storage Area: TCEQ NOR Unit 035
7. HDPE II Process Area within the ISBL System Container Storage Area, also known as HDPE Sump: TCEQ NOR Unit 039
8. Expansion Technical, Less than 90-day Drum Storage Area: TCEQ NOR Unit 042
9. Raw Water Pond Receiving Blow-down from Demineralization Unit, Surface Impoundment: TCEQ NOR Unit 043
10. Chlor-Alkali-IEM Unit within the ISBL System Container Storage Area: TCEQ NOR Unit 045, inactive since August 24, 2009
11. SPVC Technical, Less than 90-day Drum Storage Area: TCEQ NOR Unit 050
12. Olefins Plant Area: Zimpro OL-1 and OL-2 Wet Air Oxidation Units (wastewater treatment under the TPDES permit)
13. Satellite Accumulation Storage Areas:
 - a) Laboratory Wastes-Satellite Accumulation Areas
 - b) Spray Painting Wastes-Satellite Accumulation Areas
 - c) Sand Blast Wastes-Satellite Accumulation Areas

Areas of Concern

1. Storm Water Outfalls: 6, 7, 8, and 9
2. Soil Debris Piles Northeast of New SPVC Facility
3. LLDPE Plant: Tank DO 815- Water Separation Unit from Die Cut Process
4. LLDPE Plant: Heavy Ends Tank Receiving Waste from the Solvent Recovery Unit
5. HDPE Plant I: Waste Hexane Drum and Waste Hexane Stripper
HDPE Plant II: Tank T801 - Centrifugal Dryer Filtrate Unit
6. Central Maintenance Shop and Maintenance Waste Wash Down Pad, Oil Water Separator, and Used Oil Storage Vessel
7. Waste Management Units listed on TCEQ NOR and located in the Combined Wastewater Treatment Plant: TCEQ NOR Units 27, 36, 37, 40 and 49

22



SWMU-1 (NOR # 23) Hazardous Waste Storage Tank DT-405

- Tank is empty
- Historically managed distillation ends and sold as product
- On file integrity certification reports indicate tank properly maintained
- TCEQ letter dated December 23, 2003 states, “....there has been no release from the above mentioned unit (DT-405) and no response actions are required.”
- Tank was closed on NOR as of April 15, 2004



23



SWMU-2,3 (NOR #s 24, 25) Hazardous Waste Storage Tanks DT-407A/B

- Stored distillation ends that is shipped to another company as a product
- Previously managed as “hazardous waste” storage tanks, until the TCEQ, EPA, and LDEQ agreed that the reuse of the material as a feedstock allowed the site to manage the material as a product and change the status - April 1, 2001
- Tanks are inspected weekly
- No record of any spills



24



SWMU-4 (NOR #26) Brine Filter Press Roll-off Box Container Storage Area

- Brine mud from the Brine FilterPress stored for offsite disposal as a Class 2 nonhazardous waste
- The unit began operations in the early 1990's
- 1 or 2 roll-offs per month
- Materials are stored in roll-offs on concrete with containment in a designated area



25



SWMU-5 (NOR #31) Storage Pad near EDC Unit

- This is the site of a former < 90-day concrete storage pad
- Pad used for thermal desorption of EDC impacted soils
- The area now contains operations not associated with the initial unit
- Inactive storage area is adjacent to the unit (DT-402B) and within where EDC impacted groundwater is being remediated under the TCEQ program
- Inactive on NOR since August 24, 2009

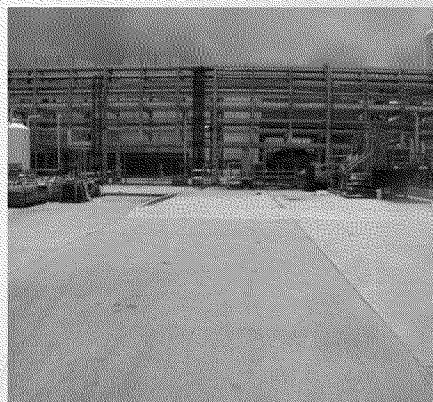


26



SWMU-6 (NOR #35)
EDC Process Unit within ISBL System Container Storage Area

- Less than 90-day storage area
- Active since the early 1990's
- Waste materials from maintenance temporally stored in roll-off boxes
- Container area is on curbed concrete and is inspected weekly
- No record of any spills

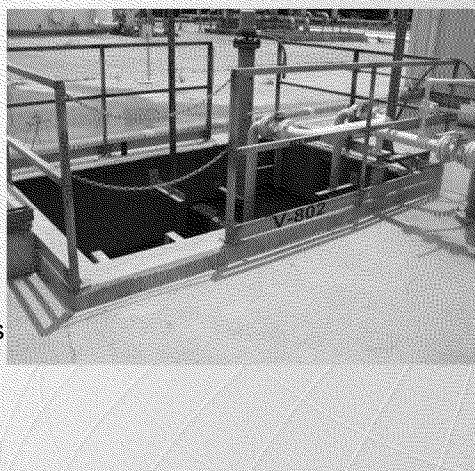


27



SWMU-7 (NOR # 39)
HDPE II Process Area within the ISBL System Container Storage Area

- Receives storm and wash water from contained area where chrome is used
- Installed in the early 2000's
- Initially listed as a hazardous waste unit
- Meets Class 2 nonhazardous wastewater standards
- Tested for total chromium prior to sending to CWTP (< 0.2 mg/L)
- Analytical records demonstrate sump never held RCRA wastes
- Inspected and certified by a Professional Engineer as a "tank" ~ 2010
- No record of any spills



28



SWMU-8 (NOR #42) Less than 90-day Drum Storage Area

- Temporary accumulation of laboratory wastes (solids and liquid) – Technical Area
- The Unit began operations in early 2000's
- No evidence of surface staining within or around the unit's secondary containment
- Inspected weekly per TCEQ's temporary accumulation rules
- No record of any spills



29



SWMU-9 (NOR #43) Raw Water Pond Receiving Blow-Down from Demineralization Unit, Surface Impoundment

- Raw water from Lake Texan in southern part and blow-down water (clarifier sludge) in northern part of pond
- Demineralization Unit uses clarifier to remove solids
- Solids meet Class 2 nonhazardous waste requirements
- Deed Recorded (TAC Per 335.9)
- There are no known contaminants in the raw water supply

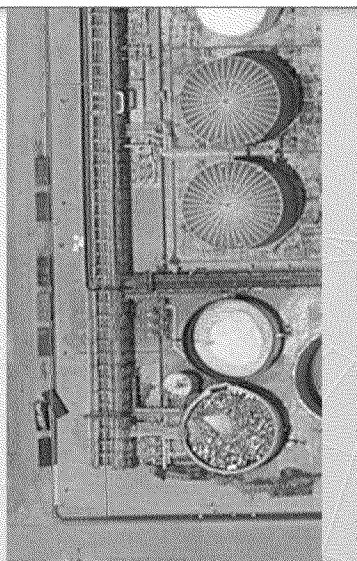


30



SWMU-10(NOR #45)
Chlor-Alkali- IEM Unit Within the ISBL System Container Storage Area

- Waste materials stored (< 90-days) in this area as part of a one-time removal off-spec acid with elevated levels of mercury - 2007
- Material was placed in poly-tanks within contained concrete area and properly disposed of as a hazardous waste
- Poly tanks inspected daily by contractor during project
- No record of any spills



31



SWMU-11 (NOR #50)
SPVC Technical, Less than 90-Day Drum Storage Area

- Temporary accumulation of laboratory wastes
- The SPVC Unit and Secondary containment was constructed and began operations in early 2011
- No evidence of surface staining within or around the unit's concrete secondary containment
- Inspected weekly per TCEQ's temporary accumulation rules
- No record of any spills



32



SWMU-12

Olefins Plant Area: Zimpro OL-1 and OL-2 Wet Air Oxidation Units

- Wastewater treatment units under TPDES Permit
- The wet air oxidation unit (Zimpro) reduces the concentration of sulfides and organic compounds in the caustic solution
- Remaining sulfides in effluent from stripper is treated biologically in the CWTP
- Organic compounds sent to flare and additional VOCs removed from liquid via a steam stripper
- No record of any spills



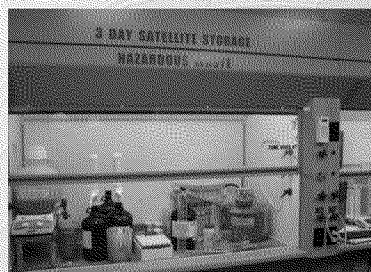
33



SWMU-13a

Satellite Accumulation Area – Laboratory Wastes

- 3-Day Satellite Storage Areas for storage of laboratory wastes
- Typical wastes stored are used rags and gloves and spent lab solvents
- Wastes are transferred daily to the 90-day storage
- These accumulation areas are operated in accordance with TCEQ rules and are inspected daily
- There are no recorded spills from these areas



34



SWMU-13b

Satellite Accumulation Area – Spray Painting Wastes

- There is no waste spray paint waste satellite area
- Painting is conducted using individual spray cans which are used until depleted
- Empties punctured and disposed of as scrap metal

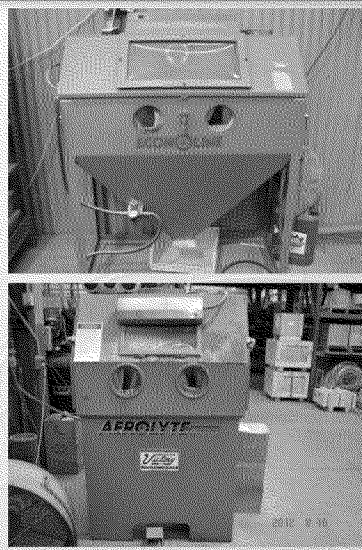
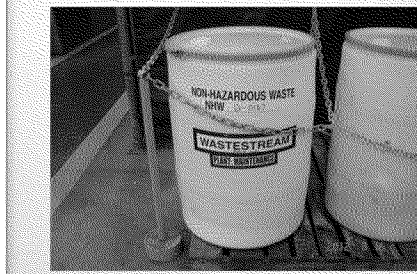
35



SWMU-13c

Satellite Accumulation Area- Sand Blast Wastes

- Valves and small parts
- Baking soda or ceramic bead based media used
- Self-contained units inside maintenance building
- Class 2 nonhazardous waste



36



AOC-1 Storm Water Outfalls #'s 6, 7, 8, and 9

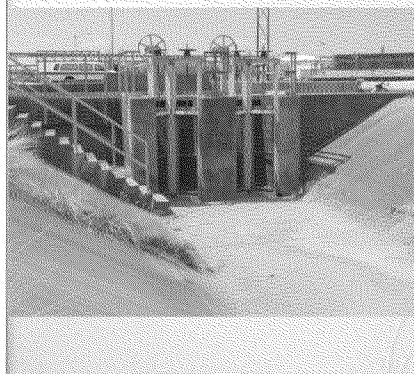
- Water from OSBL
- Managed under Site TPDES Permit
- Permit updated in 2005 – Currently being renewed
- Outfall areas are maintained and cleaned on a regular basis
- Water tested prior to release for TOC, pH, Oil & Grease

37

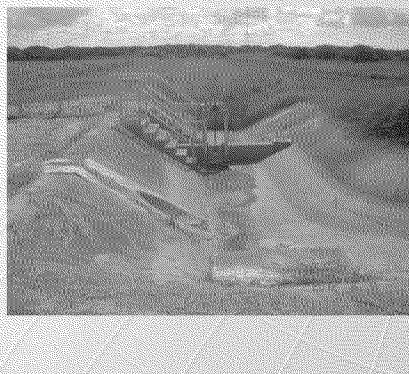


AOC-1 Storm Water Outfalls

Outfall #6



Outfall #7

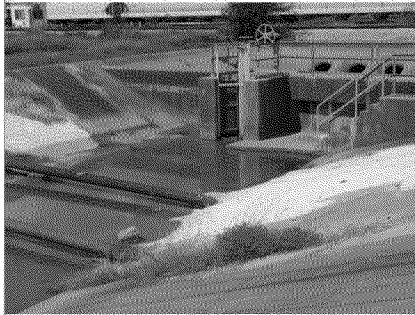


38

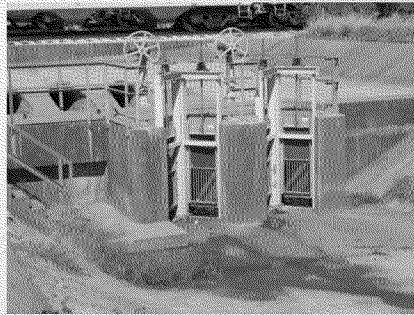


AOC-1 Storm Water Outfalls

Outfall #8



Outfall #9

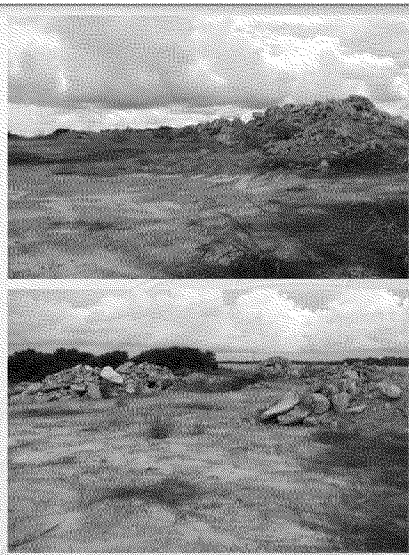


39



AOC-2 Soil Debris Pile Northeast of New SPVC Plant

- Contains soil piles that were excavated as part of the SPVC construction effort
- Piles of concrete debris present in this area from construction activities
- Six soil samples were collected in 2011 for TPH & TCLP VOCs, SVOCs, and Metals
- Soil sample results were at or below the acceptable detection limits for Class 2 nonhazardous waste material classification



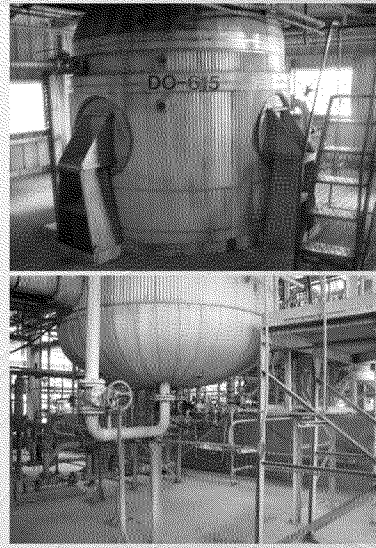
40



AOC-3

LLDPE Plant: Tank DO 615 – Water Separation Unit from Die Cut Process

- Tank DO 615 utilized as a water separation unit as part of the die cut process
- Recovered Hexane sent to FO-530 (AOC-4)
- Above ground & concrete containment
- Liquids tested prior to release to the CWTP
- No record of any spills



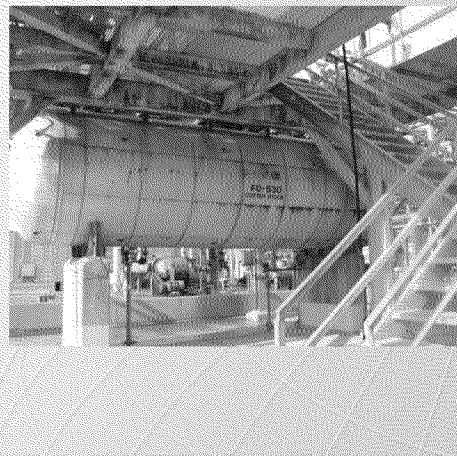
41



AOC-4

LLDPE Plant: Heavy Ends Receiving Waste from the Solvent Recovery Unit

- Receives and stores cutter stock from DO-615 (AOC-3)
- Cutter stock sold as product
- This tank is periodically inspected and sits within a concrete secondary containment
- No record of any spills

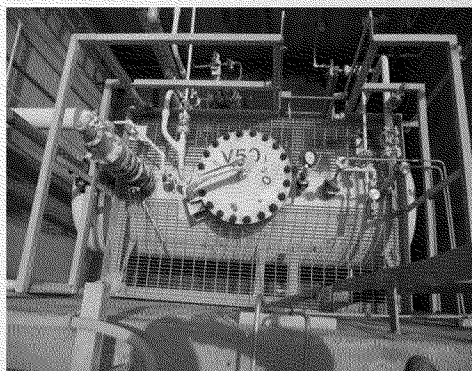


42



AOC-5 HDPE Plant I: Waste Hexane Drum

- This is a manufacturing process unit (MPU) that has been in process since 1995
- No waste is stored or generated in this unit
- The name “waste hexane drum” is used by operations to identify hexane material that requires reprocessing before reuse and is not intended to confer any regulatory classification under the RCRA program
- Material in this unit is piped to the hexane stripper
- No record of any spills



43



AOC-5 HDPE Plant I: Waste Hexane Stripper

- This is a MPU that has been in process since early 1990's
- The term “waste hexane stripper” are used by operations to identify waste material that requires reprocessing before reuse and is not intended to confer any regulatory classifications under the RCRA program
- Unit fed Hexane by the Hexane Drum (AOC-5) and water from dehydration – Water sent to CTWP
- No record of any spills



44



AOC-5

HDPE II: Centrifugal Dryer Filtrate– Pellet Water Tank– T-801 Tank

- This MPU pellet water tank, is used to cool water filtrate before it is sent back to the cutter box to be reused
- A small amount of water is sent to the CWTP
- Unit is contained within secondary containment
- No record of any spills



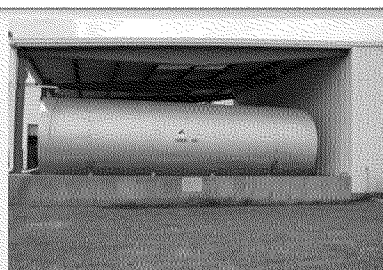
45



AOC-6

Central Maintenance Shop Used Oil Storage Vessel

- Used Oil Storage Vessel holds 15,000 gallons operated since 1994
- FPC Texas is registered with the TCEQ as a Used Oil Collection Center
- Inspected weekly - Secondary containment dike size is 31,626 gallons
- No record of any spills from this area
- There is no evidence of cracks or spills within the tank's secondary containment
- No evidence of surface staining or stressed vegetation outside of the secondary containment



46



AOC-6
Central Maintenance Shop and Maintenance Waste Wash Down Pad and Oil-Water Separator

- Washdown pad and oil-water separator (OWS) are considered one unit
- Oil brought to unit by tanker and drums
- Oil collected is sold as used oil
- Wastewater is treated by the CWTP
- OWS is listed in the TPDES application and is authorized by the TPDES permit
- There are areas of residual surface staining in the wash down pad area
- No staining or stressed vegetation outside of the wash down pad



47



AOC-7 (NOR #'s 27, 36, 37, 40, and 49)
Combined Wastewater Treatment Plant (CWTP)

- CWTP Unit (NOR 40) began operations in September 1993
- Treats inorganic and organic wastewater prior to discharge
- Bio Filter Press (NOR 27 & 36) and the Roll-off Container Storage Area (NOR 37 & 49) – bio-solids
- Sludge from press is handled as a Class 2 nonhazardous waste
- Stored in roll-offs in the container storage area prior to off-site disposal
- Effluent discharged into Lavaca Bay as a permitted (TPDES) point source
- The CWTP unit is within concrete containment
- No record of any spills



48



Corrective Action Objectives

- EPA developed four CAOs for the pre-1990 area.
- In general, these CAOs appear to be appropriate in the event that impacted soil and/or groundwater is identified in the expansion areas identified in Exhibit 1.

49



CAO 1 – Contain GW

The groundwater cleanup objective is to contain the plume, rather than return the groundwater to its maximum beneficial use throughout the plume. The groundwater point of compliance (POC) for FPC will be at the Facility boundary (including the former Brookings property), where concentrations of chemicals of concern must be less than or equal to the maximum contaminant limits (MCLs) for drinking water. (In the event an MCL is not established for a chemical of concern, a risk-based action level will be developed.)

50



CAO 2 – Source Removal/Treatment

To support the final groundwater cleanup objective, FPC-TX must remove or treat source material in soils and/or groundwater to the extent practicable. Using the TRRP, soils with concentrations of COCs in excess of the soil saturation limit (C_{sat}) must be addressed, and groundwater with concentrations of COCs in excess of 1% solubility must be addressed through removal or treatment.

51



CAO 3 – Worker Protection

For the protection of on-site workers dermal contact or ingestion of COCs in soils, FPC-TX will control or mitigate risks to appropriate TRRP industrial screening levels for surface and subsurface soils. Using TRRP guidance, risk associated with soil concentrations in excess of the appropriate TRRP PCL will be mitigated.

52



CAO 4 – Cox Creek

- The corrective action objective for surface water and sediment is to assure protection of human and ecological receptors by monitoring contaminant levels in surface water features associated with Areas of Concern (AOCs)

53



Closing

- Schedule
 - Due date for Initial Scoping Meeting Summary
- Coordination with TCEQ for post-closure application
- Communications
- Additional action items

54

